ABSTRACT

Population displacement presents one of the most complex governance challenges created by the climate crisis. Sea level rise, erosion, storm surges, and flooding will cause the permanent loss of land and housing for millions of people residing in low-elevation coastal zones. The consequent inability to return to original homes and lands will fundamentally alter their lives and livelihoods. Coastal topography and geology, as well as the costs and scale of engineered coastal protection, make it highly unlikely that all coastal communities in the United States will be protected. Large-scale population and infrastructure displacement, including community relocation, will be required to protect people from disappearing coastlines. Who will be protected and for how long? Where will people go, who decides, and how can their human right to water, housing and food be protected and promoted when they are forcibly displaced from their homes? These are the questions that need to be asked and answered in a federal relocation governance framework.

∞ Dr. Bronen works as a human rights attorney and interdisciplinary social scientist on the issue of climate-forced displacement. She has been working with Alaska Native communities since 2007 to create a federal relocation governance framework based in human rights. She coauthored the Peninsula Principles on Internal Displacement and was a technical advisor for the Brookings Institute’s Guidance on Planned Relocation. She co-founded and directs the Alaska Institute for Justice, a non-governmental organization that serves as a research and policy institute focused on climate and social justice issues, and is a senior research scientist at the University of Alaska Fairbanks. She has worked with the White House Council on Environmental Quality as well as the UN High Commissioner for Refugees Climate Change Office. The FBI awarded the Alaska Institute for Justice the 2012 Director’s National Community Service award for the agency’s work with human trafficking victims. The Municipality of Anchorage awarded AIJ the Community Diversity award in 2007. Robin’s additional honors include: 2012 Alaska Bar Association Human Rights award, 2012 International Soroptimist Advancing the Rights of Women award and 2007 Robert Hickerson award for public service. Her work is regularly included in media stories about population displacement including CNN, the Guardian and Washington Post.


1 While wildfires and drought will also cause the places where people live and maintain livelihoods to potentially become uninhabitable, the land will continue to survive unlike sea level rise and erosion, which will cause land to permanently disappear.
President Biden acknowledged this impending crisis on February 4, 2021 when he issued the Executive Order on Rebuilding and Enhancing Programs to Resettle Refugees and Planning for the Impact of Climate Change on Migration. In the Order, he directed the Assistant to the President for National Security Affairs to prepare a report on climate change and its impact on migration, including forced migration, internal displacement, and planned relocation. The inclusion of the words “internal displacement” and “planned relocation” make it unclear if the study will also examine how climate change is affecting population movement within the United States. However, the U.S. Government Accountability Office recently issued a report documenting the urgent need for federal leadership on climate-forced internal displacement already occurring within the United States. The Obama administration and Congress have also recognized the need for federal leadership in this area.

This Article outlines the previous work done by the Obama administration and then recommends the components of a federal relocation governance framework and the process the Biden-Harris administration can use to create this framework. The Biden-Harris administration must prioritize the establishment of such a framework to avert a large-scale humanitarian crisis in the United States. In doing so, the administration can demonstrate to the international community the steps that must be taken to protect those forced to relocate because of the climate crisis. As the Civil Rights Congress wrote in its 1951 petition to the United Nations regarding treatment of Black people in the United States, the “test of the basic goals of a foreign policy is inherent in the manner in which the government treats its own nationals.”

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I. INTRODUCTION

A federal relocation governance framework must guide federal, state, local, and tribal agencies in facilitating the movement of people from vulnerable coastlines. The U.S. Congress and the Obama administration recognized the need to establish this framework but failed to create it. While the United States has governance systems to respond to disasters, there is no such system to facilitate and fund a large-scale population and infrastructure relocation process prior to a disaster that displaces people.\(^4\) To facilitate such a process, complicated governance issues must be resolved, including how to determine when adaptation and protection of a community’s original location is no longer possible and relocation is required.

For centuries, governments have been relocating people for geopolitical and economic purposes, causing tremendous harm to the populations relocated. In particular, development displacement, the forcible relocation of people to take land for infrastructure projects, has a grim and longstanding track record of harm. These government-mandated relocations weaken social, cultural, and political institutions, disrupt subsistence and economic systems, and impact the cultural identity and traditional kinship ties within a community.\(^5\) Human rights principles, social equity, and environmental justice are thus critical underpinnings of any relocation governance framework. Current racial and economic inequities and the legacies of colonization and slavery must be addressed when responding to climate-forced displacement.

II. TWO TRUTHS: SEA LEVEL IS RISING AND THE ENTIRE U.S. COASTLINE WILL NOT BE PROTECTED

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Sea levels—which have been relatively stable during the last four thousand years—are now rising at an accelerating rate, as evidenced by the increased flooding of coastal communities during high tides when no storms are occurring. Increased air and water temperatures are causing an unprecedented environmental transition in the Arctic: regions that have been frozen for millennia are predicted to melt in the decades ahead. In the future, the extent of this polar region melting will primarily determine the magnitude of sea level rise.

Melting of the Greenland Ice Sheet is at its highest point since at least 1550 C.E. or possibly for five thousand years. “Ice loss from the Greenland Ice Sheet increased seven-fold from 34 billion tons per year between 1992 and 2001 to 247 billion tons per year between 2012 and 2016.” If the Greenland Ice Sheet completely melts, sea levels may rise up to 7 meters (23 feet). In Antarctica, “ice loss nearly quadrupled from 51 billion tons per year between 1992 and 2001 to 199 billion tons per year between 2012 and 2016.” A thawing Antarctica has the potential to raise sea level by 58 meters (190 feet). Despite considerable scientific advances in understanding ice sheet contributions to global mean sea-level rise, severe limitations remained in the predictive capability of ice sheet models in 2019. As a consequence, the potential contributions of ice sheets remain the largest source of uncertainty in projecting future sea level rise. Most projections use the end of the twenty-first century to quantify the possibilities. However, sea levels will not stop rising at the end of this century.

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6 William V. Sweet & Joseph Park, From the Extreme to the Mean: Acceleration and Tipping Points of Coastal Inundation from Sea Level Rise, 2 EARTH’S FUTURE 579, 597 (2014).
9 K. A. Graeter et al., Ice Core Records of West Greenland Melt and Climate Forcing, 45 Geophysical Res. Letters 3164 (2018).
12 Id.
14 Bamber et al., supra note 8, at 11195.
In the United States, nearly 40% of the population lives in low-elevation coastal communities that continue to experience growth and development.15 Currently, sea level rise is causing a significant increase—anywhere from 300% to more than 900% since 1970—in the number of days when these communities are inundated with ‘sunny day’ flooding caused by high tides, not storm surges.16 This type of flooding disrupts and damages coastal infrastructure, including homes, important transportation links, and storm and wastewater systems.17 As a result, without protective measures, as many as 13 million people could face permanent inundation and displacement.18

The implementation of technological adaptation solutions to protect coastal populations will be critical in determining how many people will need to relocate. However, the uncertainty related to the extent of sea level rise makes it extremely difficult to create long-term solutions. These solutions therefore must be dynamic and responsive to increasing rates of sea level rise. Normally, governments and property owners maximize the capacity of infrastructure to withstand flooding and erosion using engineered structures, such as seawalls, and building codes.19 Seawalls, however, are problematic because they are expensive to build and maintain, they increase flooding and erosion on neighboring properties, and they encourage development of vulnerable areas.20 In addition, some coastal cities, such as Coral Gables, Florida, cannot be protected by seawalls because of the geology of the region, where sea level rises through porous limestone and affects infrastructure from beneath the ground.21

Despite their limitations, seawalls remain an important technological adaptation solution to protect coastal communities. Construction of more than 50,000 miles of coastal barriers in 22 states, costing more than $400 billion before 2040, will be required to protect coastal populations from rising seas and prevent

15 Lindsey, supra note 10.
16 Id.
20 Bronen, supra note 19.
chronic flooding and inundation.\textsuperscript{22} Fourteen states will see expenses of $10 billion or more between 2020 and 2040, and more than 130 counties face at least $1 billion in costs.\textsuperscript{23} In Texas, the construction of a seawall to protect Galveston Bay is projected to cost over $26 billion and has thus far taken 12 years to plan, with an additional 10 to 15 years needed for design and construction.\textsuperscript{24} The costs and scale of engineered coastal protection, coupled with the challenges of regional variation in coastal topography and geology, make it highly unlikely that all coastal communities in the United States will be protected.\textsuperscript{25}

Community relocation will therefore be required to protect people and the infrastructure upon which they depend. Yet the United States has no institutional framework to facilitate this type of population movement. The U.S. Congress and the Obama Administration recognized this gap and the complex challenges of climate-forced population displacement. In a December 2013 report, the U.S. Congress Bicameral Task Force on Climate Change recommended that the Administration devote special attention to the problems of communities that decide they have little choice but to relocate in the face of the impacts of climate change. Because the relocation of entire communities due to climate change is such an unprecedented need, there is no institutional framework within the U.S. to relocate communities, and agencies lack technical, organizational, and financial means to do so.\textsuperscript{26}

President Obama’s Task Force on Climate Preparedness and Resilience echoed this recommendation in November 2014, affirming that the federal government should take a lead role in establishing a relocation governance framework that

\textsuperscript{22} Sverre LeRoy et al., Ctr. for Climate Integrity, High Tide Tax: The Price to Protecting Coastal Communities from Rising Seas 1 (2019), https://www.climatecosts2040.org/files/ClimateCosts2040_Report-v5.pdf [https://perma.cc/5PDF-K8GW].

\textsuperscript{23} Id.


\textsuperscript{25} Profound social justice issues are involved in prioritizing communities most in need of protection, but this is not the focus of this article.

responds to the complex challenges of climate-induced population displacement.\textsuperscript{27} As a result of this recommendation and the U.S. government’s role as chair of the Arctic Council between 2015 and 2017, the Obama Administration designated two entities to address the need to create a relocation governance framework. Through an executive order, President Obama established the Arctic Executive Steering Committee in January 2015 to guide federal agencies in coordinating federal Arctic policies with those of state, local, and Alaska Native tribal governments.\textsuperscript{28} The Community Resilience Working Group, a component of the Arctic Executive Steering Committee chaired by the Department of Housing and Urban Development and the Department of the Interior, was established to improve federal actions addressing the imminent threat of coastal erosion and flooding in Alaskan Arctic coastal communities.\textsuperscript{29}

While the Community Resilience Working Group was focused on Arctic communities, the White House Council on Environmental Quality (CEQ) also created a working group to address the issue of managed retreat and relocation in other locations in the United States. To systematize its work, the CEQ developed a Memorandum of Understanding (MoU) which described principles of cooperation, roles, and responsibilities of twelve federal agencies and departments.\textsuperscript{30} Unfortunately, the MoU was not finalized before President Obama left office, and the work has not continued.

In addition to creating these working groups, President Obama designated the Denali Commission to be the central coordinator of the federal effort to build climate resilience in Alaska, but did not allocate any additional funding to accomplish this goal.\textsuperscript{31} Without funding or authority over any other federal agencies, the Commission’s lead role was compromised. In 2016, the Commission

\begin{footnotesize}
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\item \textsuperscript{27} President’s State, Local and Tribal Leaders Task Force on Climate Preparedness and Resilience, Recommendations to the President \textsuperscript{30} (2014), https://obamawhitehouse.archives.gov/sites/default/files/docs/task_force_report_0.pdf [https://perma.cc/7SXD-RTFK].
\item \textsuperscript{28} Exec. Order No. 13689, 80 Fed. Reg. 4191 (Jan. 21, 2015).
\item \textsuperscript{30} Based on author’s conversation with CEQ, December 2016. The federal agencies and departments included Defense (DoD), Homeland Security (DHS), Agriculture (USDA), Energy (DOE), Health and Human Services (HHS), Interior (DOI), Corps of Engineers Civil Works (USACE), Housing and Urban Development (HUD), Commerce (DOC), Transportation (DOT), and Environmental Protection Agency (EPA).
\item \textsuperscript{31} The Denali Commission is an independent federal agency, introduced by Congress in 1998 and designed to provide critical utilities, infrastructure, and economic support throughout Alaska. The Village Infrastructure Protection (VIP) program at the Denali Commission is leading the relocation effort. The tribe, along with the Denali Commission, lobbied Congress in order to acquire this additional one-time Congressional appropriation. Consolidated Appropriations Act, Pub. L. No. 115-141, § 311(d)(iv), 132 Stat. 531 (2018).
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participated in a federal Interagency Working Group on Community-led Managed Retreat and Voluntary Relocation, which met for a short period of time to help the federal government develop the institutional capacity to assist communities with relocation. This effort was abandoned in 2017 without issuing any guidance or recommendations.32

The Government Accountability Office (GAO) reviewed these efforts in a 2020 report, which concluded that unclear federal leadership is the key challenge to climate migration as a resilience strategy and advocated for a climate migration pilot program. The report builds on several previous reports documenting the federal government’s failure to respond to the needs of communities requiring relocation and increasing federal fiscal exposure due to natural disasters.33 In June 2020, the U.S. House Select Committee on the Climate Crisis reaffirmed the need to create a governance framework and protect the human rights of those displaced:

Congress should direct the MitFLG [Mitigation Framework Leadership Group] to create a federal relocation framework in collaboration with tribes, Indigenous communities, and Insular Areas that provides for the planned transition for communities seeking relocation assistance and protects access to traditional lands and waters for tribes and Indigenous communities, as well as rights to culture, health, safe drinking water, food, and adequate housing.34

Despite these efforts, tribal, state, and federal agencies are still struggling to respond to the needs of communities choosing relocation because they lack the statutory mandate and the funding necessary to facilitate a community relocation process.

III.
COMPONENTS OF A FEDERAL RELOCATION GOVERNANCE FRAMEWORK

A federal relocation governance framework must outline the roles and responsibilities of federal agencies so they can dynamically respond to climate-induced environmental changes and shift their efforts from protection in place to

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33 Id.

managed retreat and community relocation. The framework needs to be iterative to incorporate different planning horizons.\textsuperscript{35} The relocation decision-making process is central to this framework and must answer the following questions: 1) who has the authority to decide that relocation is warranted; 2) what is the basis for making the decision; and 3) when does the decision need to be made to protect the life and well-being of community residents? In addition, the governance framework needs to identify: 1) the steps governmental and nongovernmental agencies must take to implement a relocation process; 2) the organizational arrangements between multidisciplinary and multi-level governmental and nongovernmental agencies; 3) a relocation site selection process which includes community approval of the site chosen and engagement with the host community; and 4) the funding mechanisms for relocation.

This governance framework is critical to ensuring that relocation is voluntary, well-planned, and sufficiently funded, and that it protects the collective and individual human rights of those who must relocate. The fundamental right to self-determination, as well as the essential rights to potable water, safe and secure housing, and food security must guide community-led relocation. Social equity and environmental justice issues that have caused many communities to be environmentally vulnerable must also be addressed.

\textit{A. Multi-level Collaborative Institutional Structure}

Federal interagency collaboration is essential to protect people’s health and well-being, and to facilitate their relocation and the relocation of infrastructure upon which they depend. The protection of people must be the central focus of this collaboration. Four federal government agencies—Department of Housing and Urban Development, Department of Homeland Security Federal Emergency Management Agency, Department of the Interior, and Department of Health and Human Services—are central to this framework and could co-chair the interagency collaboration.\textsuperscript{36}

\textsuperscript{35} In Coral Gables, the city identified three planning horizons: immediate (5-10 years), intermediate (15-20 years), and long-term (50 years). \textit{Coral Gables City Comm’n, supra} note 21, at 25.

\textsuperscript{36} The Federal Emergency Management Agency (FEMA) is the national agency responsible for hazard mitigation and disaster relief in the United States. These are essential tools for evaluating whether people can be protected in the places where they live and maintain livelihoods. Housing and Urban Development focuses on programs to assist low-income and disadvantaged populations with safe and affordable housing and works with various government agencies and private organizations, including community nonprofits and faith-based groups. The Department of the Interior Bureau of Indian Affairs’ mission is to enhance the quality of life and to promote economic opportunity of American Indians, Indian tribes and Alaska Natives. Department of Health and Human Services is the principal agency dedicated to protecting the health of all Americans and providing essential human services.
These agencies need to work in concert with communities responding to accelerating environmental change and facilitate, if required, a shift from protection in place and hazard mitigation to managed retreat and community relocation. The collaborative governance framework should begin while a community is assessing environmental change and risk so that multi-level collaboration is established prior to implementing the relocation process. Collaborative funding mechanisms also need to be created so communities can access multiple relevant federal funding streams with one application process.

This federal collaborative governance framework needs to create the parameters for replication by state and local governing entities. At the state level, interagency government collaboration is critical to 1) create a statewide system to identify imperiled communities and relocation sites, 2) create the mechanisms to engage host communities and facilitate collaboration between them and communities seeking relocation, 3) coordinate interagency data gathering and analysis, and 4) develop funding strategies to ensure that communities seeking relocation are prioritized and that funding can be leveraged between different state, federal and local revenue streams. Collaborative governance at the local level is also important to plan the phased relocation process, including the building or remodeling of infrastructure, the movement of people, and the abandonment of the original community location.

B. Define Planned Community-led Relocation

Community-led relocation needs to be defined because it requires complex movement of people and infrastructure, as well as extensive interagency collaboration. The elements of a community-wide relocation are:

- **Community**: The critical elements of this term are: 1) a majority of households within the jurisdiction of a local governing entity; and 2) critical public infrastructure, such as water and wastewater systems, transportation corridors, and schools, which will also need to relocate.

- **Voluntary**: The institutional framework needs to clearly state that community and tribal residents will decide whether, when, how, and where to relocate so that the right to self-determination is protected and promoted.

- **Disaster Risk Reduction**: Community-led relocation begins prior to climate-forced displacement. Populations continue to live in their original location and have the time to plan a relocation process. If people are already displaced because of an extreme weather event, and are in

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37 Environmental change will cause several different types of population movement, including individuals and households. The framework can include these other types of population mobility, but this is not the focus of this article.
immediate need of housing, food, and medical care, it will be more difficult to plan a relocation process and protect their individual and collective human rights. Relocation occurring after displacement requires a separate institutional framework to ensure that urgent humanitarian needs are met at the same time that a relocation process is initiated.

- **Planned:** Relocation is a long-term planning process requiring years to identify the relocation site, build infrastructure, protect and maintain livelihoods or train people for new livelihoods, understand community demographics, engage with host communities, and develop a timeframe within which the movement of people will occur.

- **Human Rights are Protected:** The collective and individual human rights of relocated populations are protected before, during, and after relocation occurs. The right to self-determination is the most important right to protect, as it ensures that communities are making the decision about whether, when, and how they relocate. Relocated communities must also have access to potable water, food, health care, housing, and education—the rights that ensure they will be able to live lives with dignity.

- **Social Equity:** Many environmentally vulnerable communities now faced with the permanent loss of home were forced to be in their current location because of federal policies, such as redlining and mandates to send children to school. Social equity must be the foundation of this federal framework so that it rectifies these injustices and does not continue to disadvantage and marginalize communities needing to relocate.

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38 Redlining limited access to federally backed mortgages based on race until the passage of the Fair Housing Act of 1968 and research has shown that within some urban areas, flooding losses have been concentrated in Black and low-income communities. See FEMA, GUIDE TO EXPANDING MITIGATION, MAKING THE CONNECTION TO EQUITY 3 (2020), https://www.fema.gov/sites/default/files/2020-09/fema_region-2_guide-connecting-mitigation-equity_09-10-2020.pdf [https://perma.cc/YPL4-L6XC]. In Alaska, the federal government forced Alaska Native communities to permanently settle in their current location because of the federal government’s requirement that children attend schools. The schools were built in locations easily accessible by barges carrying construction materials. Prior to this forced settlement, Alaska Native tribes migrated between places where they were able to gather the foods on which they depend. These settlements are now environmentally vulnerable and causing several communities to choose to relocate. See Robin Bronen & F. Stuart Chapin III, Adaptive governance and institutional strategies for climate-induced community relocations in Alaska, 110 PNAS 23 (2013), https://www.pnas.org/content/early/2013/05/16/1210508110 [https://perma.cc/N446-JYZF]; Bamber et al., supra note 8. A 2020 report by the U.S. Government Accountability Office highlights the three pillars of the disaster resilience framework, information, integration and incentives, all of which are focused on infrastructure and notably excludes social equity. As with the FEMA-led disaster response efforts, the priority focus is on infrastructure, their protection in place, repair, rebuild and managed retreat. U.S. GOVT ACCOUNTABILITY OFF., supra note 32.
C. Define the Relocation Decision-making Process

The relocation decision-making process is the most critical component of a relocation governance framework. Relocation must always be a last resort adaptation strategy. The governance framework needs to standardize the relocation decision-making process so that community residents and their local governing entities understand the criteria needed to initiate a relocation process and document that relocation is warranted. Three components need to be defined: 1) the identification of social and environmental thresholds that demonstrate that relocation is required to protect the lives and livelihoods of community residents; 2) environmental and social data required to document that these thresholds have been met and that relocation is the best long-term adaptation strategy; and 3) the decision-making process to document that community residents and the local governing entity have voluntarily decided to relocate.

1. Identify Environmental and Social Thresholds

Social and environmental thresholds can assess vulnerability and guide the transition from protection in place to community relocation. Unlike government-mandated relocation programs in which the government makes the decisions regarding the timing of relocation, climate-forced relocations require a dynamic process closely connected with environmental changes that affect the well-being of community residents. These thresholds can indicate that a multi-year relocation planning and implementation process needs to begin. The thresholds can also identify the timelines for the phased abandonment of public infrastructure to ensure that the people who continue to live in the community’s location have access to the services they need before they relocate.

The identification of social and environmental thresholds is also critical to help avoid or minimize the risk of costly litigation that may prevent or delay the implementation of a relocation process. A local government may decide to stop maintaining public services to avoid expensive maintenance necessitated by accelerating environmental change or due to insufficient relocation resources to maintain these services for the remaining local population. As a consequence, injured businesses and property owners could challenge these local government decisions using a negligence theory of tort liability, claiming there is a duty to maintain these services. They could also use a theory of inverse condemnation, claiming that the government has taken the value of property, even though there has been no formal exercise of eminent domain. Creating these thresholds can set

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reasonable maintenance standards and levels of service to provide more predictability to property owners and help inform their reasonable investment-backed decisions.  

Finally, the identification of thresholds is also important so that funding is used efficiently and effectively to maintain the infrastructure of the current community and, at the same time, to build infrastructure at the relocation site. Capital improvements within the vulnerable area can then be evaluated to determine the extent to which the proposed improvement is resilient to climate hazards, such as sea level rise, and whether they should be financed or constructed. A local governing entity also needs to review funding options to maintain public utilities and other governmental services as relocation progresses, causing a reduction of population, and as environmental changes make it more difficult to sustain these services.

These thresholds need to be specific to ecosystems, geographic regions, and social, political, and economic systems. The socio-environmental thresholds demonstrating that relocation is required could include: repetitive loss of community infrastructure; imminent danger and inability to protect the community from ongoing environmental changes and repeated random extreme weather events; no ability for community expansion; predicted rates of environmental change (e.g., sea level rise) and its impact on public infrastructure, including lack

government’s litigation risk: affirmative public duties; the public duty doctrine; sovereign immunity; and takings and inverse condemnation. Public Duties determine whether a local government has undertaken an affirmative obligation or was required to act by statute to provide particular services to residents. Under traditional principles of tort law, the absence of a duty of care generally results in a lack of liability. Sovereign immunity may shield the government from suit even if it may otherwise have been liable to an injured party for tortious conduct. Government inaction in the face of a duty to act, combined with the effects of substantial sea level rise, could also raise issues relating to takings, including inverse condemnation issues. See CORAL GABLES CITY COMM’N, supra note 21, at 14–15. In ruling against a county that decided to cease maintaining a portion of a road, the Florida 5th District Court of Appeals court explained that maintaining roads dedicated to public use triggers an obligation to continue to do so (unless or until formal abandonment of the road) and failure to reasonably maintain the road, which prevents meaningful access to real property, would constitute an inverse condemnation. See Jordan v. St. Johns, 63 So.3d 835, 839 (Fla. Dist. Ct. App. 2011); see also CORAL GABLES CITY COMM’N, supra note 21, at 16–17. The case settled without a decision on what is considered reasonable maintenance. Id. at 17.

40 The City of Coral Gables recognized that one way to avoid or minimize litigation risk is to create ‘level of service’ standards for public infrastructure and repairs and to frequently update and adjust those levels of service to ensure that they are feasible—based not only on environmental factors but also based on the City’s current and projected financial capabilities. Id. at 17. Some courts determine a local government’s immunity from liability by making a distinction between “upgrading” infrastructure—which is a “planning” level activity which would generally be immune from suit—and “maintenance” of existing infrastructure—which is an “operational” activity that does not necessarily invoke sovereign immunity. Id. at 16.

41 The City of Coral Gables evaluated several different financing options to address sea level rise infrastructure improvements: ad valorem taxation, special assessments, user and utility fees, impact fees, municipal bond issuances, grants and subsidies, and public-private partnerships. Each of these financing options requires an assessment of the type of infrastructure being impacted, its location within the community, and the benefit derived by the public. Id. at 18–24.
of viable access to transportation, potable water, communication systems, power, and waste disposal; repeated failure of hazard mitigation measures; and a decline in socio-economic indicators, including food security, loss of livelihoods, and public health.

a. Process to Identify Thresholds: Integration of Hazard Mitigation Planning with Climate Adaptation Planning

The institutional framework needs to outline the process for identifying the environmental and social thresholds that indicate relocation is required. The FEMA-funded hazard mitigation planning process, amended to integrate climate adaptation planning, can be the mechanism used to identify these thresholds. Through this integration, both slow ongoing environmental change and extreme weather events can be monitored to assess the vulnerability of infrastructure and of community residents to these natural hazards.

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), enacted in 1988, defines all FEMA post-disaster relief and hazard mitigation activities. The Disaster Mitigation Act of 2000 modified the Stafford Act by establishing a national program for pre-disaster mitigation. Mitigation activities are designed to protect communities from natural hazards that may endanger people or incur permanent property damage. Mitigation measures—which may be implemented prior to, during, or after a disaster—involve “ongoing actions to reduce exposure to, probability of, or potential loss from hazards” and reduce reliance on federal resources in the event of a disaster.

Federal funding is available through the Hazard Mitigation Grant Program (HMGP) to develop a Local Hazard Mitigation Plan. Only communities that have a Local Hazard Mitigation Plan, adopted by the community and approved by FEMA and the state in which the community is located, can receive FEMA funding to implement hazard mitigation activities. States are also required to develop a State Hazard Mitigation Plan to receive FEMA funding. Mitigation planning requires a comprehensive risk assessment, which consists of three components: hazards

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45 See Mitchell Moss et al., The Stafford Act and Priorities for Reform, 6 J. OF HOMELAND SEC. AND EMERGENCY MGMT. 1, 4–5 (2009).

46 See 44 C.F.R. § 201.6 (2019).
identification, vulnerability assessment, and risk analysis. There is no requirement to continuously update the hazard mitigation plan as conditions change, although the regulations do recommend that approved mitigation plans be reviewed at least every five years.

The hazard mitigation planning process is a critical tool to evaluate risk, and the primary tool used by communities to assess vulnerability. However, as currently configured, it is inadequate to assess whether relocation or protection in place can provide long-term protection from hazards. Integrating climate adaptation planning can be the mechanism to identify social and environmental thresholds and determine whether relocation needs to occur. Hazard mitigation planning has traditionally relied on analysis of historical events to characterize risk. Climate adaptation, on the other hand, not only considers the impacts of historic extreme weather events, but also examines the implication of slow-onset environmental changes and uses long-term planning horizons, recognizing that climate change occurs dynamically at a local level and will continue to change far into the future.

Using community-based environmental and social monitoring can help ensure that climate adaptation planning accounts for changes in health, well-being, and the environment. Monitoring the health effects of climate-induced environmental change is also critical to put key health issues at the center of relocation planning and implementation. Climate change impacts on health include morbidity and mortality caused by unpredictable and extreme weather and damage to water and

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47 See § 201.6(c)(2). The identification and description of hazards and their impact on critical infrastructure in a community are the first steps. Facilities are designated as critical if they are: (i) vulnerable due to the type of occupant (e.g., children or elderly); (ii) critical to the community’s ability to function (e.g., health clinics, transportation systems such as airways and roads, power generation facilities, or water treatment facilities); (iii) have a historic value to the community (e.g., cemetery); or (iv) critical to the community during the post-disaster response and recovery. The risk analysis of a hazard mitigation plan is intended to provide information that will help the community identify and prioritize mitigation activities to prevent or reduce losses from the identified hazards. Id.

48 See § 201.6(c)(4)(i).

49 FEMA provided general information on how to integrate climate change into hazard mitigation plans in its 2013 guidance document. See FEMA, supra note 42, at § 5-8 (“The planning team may decide to include a discussion of the impacts of climate change in the risk assessment. This is not required by Federal mitigation planning regulation, but can provide a better understanding of how risk may change in the future. Climate change in and of itself may not be a hazard, but it may change the characteristics of the hazards that currently affect the planning area. The planning team can include climate change as a separate section in the plan or within the descriptions of the existing hazards, such as severe storms, flooding, wildfire, and drought. Climate adaptation strategies, which are adjustments in natural or human systems to mitigate the impacts of a changing climate, may complement other hazard mitigation strategies.”).


51 See Bronen, supra note 19, at 5–6.
sanitation infrastructure. Similar to the monitoring of environmental change, preventing negative health outcomes requires a local-scale understanding of the type, timing, and rate of change, as well as the direct and indirect health effects. Community-based monitoring and assessment should also incorporate a focus on the environmental effects on livelihoods, which includes the availability of subsistence foods.\textsuperscript{52} A community-based monitoring and assessment tool that integrates climate change impacts on infrastructure, health, and livelihoods has the potential to holistically address the way that climate change affects the lives and livelihoods of community residents, facilitate adaptation, and dynamically address ongoing environmental change.

Finally, community-based monitoring provides a mechanism for community engagement and empowerment so that communities gather the critical environmental and social information to assess whether, when, and if relocation is required. Distrust of government actors can be significant in communities that have been intentionally and unintentionally disenfranchised by government policies. For community members to engage with government actors, it is critical to create mechanisms to facilitate collaboration prior to the time when decisions are being made to determine whether community relocation is the best long-term adaptation strategies.\textsuperscript{53}

\section*{2. Relocation Decision-making Process}

The governance framework must outline the steps a community needs to take to demonstrate that the decision to relocate is voluntary and was made by community residents. The framework could require a community-wide vote or survey demonstrating community commitment to relocate and that a majority of residents support the community relocation effort.\textsuperscript{54}

\section*{3. Data Required}

Community relocation must always be an adaptation strategy of last resort. For this reason, to receive federal funding and technical assistance to support a relocation process, the relocation governance framework should create standards for the social and environmental documentation needed to demonstrate that a community-wide relocation effort is the best long-term adaptation strategy to protect the lives and livelihoods of community residents.

\textsuperscript{52} \textit{Id.} at 6.

\textsuperscript{53} FEMA, supra note 38, at 3–4.

\textsuperscript{54} In Alaska, community residents in three Alaska Native communities voted to relocate multiple times. \textit{See Bronen & Chapin III, supra} note 38, at 9321–22.; \textit{see also} Bamber et al., supra note 8.
D. Identify Relocation Sites

All levels of government need to identify and assess possible places where people can relocate prior to displacement. The governance framework can describe the criteria for this identification process to ensure federal funding is spent appropriately. An assessment needs to determine whether the relocation site will be subjected to future environmental hazards, engage with the people already inhabiting the possible relocation site, and incorporate issues related to land ownership and title. To avoid conflict, host communities must be included in any relocation process to reach consent about being a relocation site, address issues identified by the host community, and develop infrastructure to meet the needs of the host community and the relocated population.

E. Strategic Relocation Planning and Implementation

The governance framework needs to outline the documentation local governing entities must submit to the federal government to access funding and technical assistance for relocation planning and implementation. This documentation should include a strategic relocation planning and implementation report that addresses the following issues: relocation site location; infrastructure needed and the timing required to plan and implement construction of infrastructure at the relocation site; the timing for the planned abandonment of infrastructure; and demographic information documenting the livelihoods, age, health, and educational needs of community residents so that their needs will be met throughout the relocation process. If people are not able to continue their livelihood at the relocation site, a plan needs to be put into place to retrain them so that they will have a livelihood once relocated.\(^5\)\(^5\) This documentation should provide the roadmap to ensure that there is sufficient funding for all phases of the relocation so that it can proceed efficiently and cause the least harm possible.

F. Funding

The governance framework needs to revise the eligibility criteria for federal funding, such as FEMA and Housing and Urban Development, and create new revenue streams that can be accessed for planned community relocations. Disaster declarations are the primary vehicle through which FEMA and HUD provide funding and technical assistance. The Stafford Act definition of the term “disaster” and its interpretation must be amended. The current definition reads:

‘Major disaster’ means any natural catastrophe (including any hurricane, tornado, storm, high water, wind driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.\(^{56}\)

Slow ongoing environmental change is not typically considered a disaster as defined by the Stafford Act, which means that all levels of government cannot access critical funding and technical assistance to proactively respond to and prevent severe damage from these hazards.\(^{57}\) The Stafford Act’s rigid definition of disaster has caused tremendous harm to the Alaska Native community of Newtok, which has been in a relocation process for more than 25 years. The tribal government has struggled to find the funding to implement its decision to relocate to protect the community from accelerating environmental change.\(^{58}\) By 2016, a decade of storms, erosion, permafrost degradation, and flooding had caused substantial damage to the Newtok community.\(^{59}\) In December of that year, the tribal government requested that President Obama issue a Presidential Disaster Declaration in order for the community to receive federal disaster relief funding to

\(^{56}\) 42 U.S.C. 5122 (emphasis added).

\(^{57}\) HUD funding is limited to grantees recovering from qualifying disasters that occurred in 2015, 2016 and 2017. U.S. GOV'T ACCOUNTABILITY OFF., supra note 32, at 5. The 2020 GAO report affirmed this fact when it listed funding sources to respond to climate-forced displacement, such as the recently implemented FEMA Building Resilient Infrastructure and Community program and the Housing and Urban Development Community Development Block Grant mitigation program, which both require a disaster declaration to be eligible for the funding. Id. at 4–5. Notably, the GAO report did not include funding available to respond to slow-ongoing environmental change, which is an indication that there is limited available funding to respond to these environmental hazards.

\(^{58}\) Id. at 13–17.

\(^{59}\) The Sandy Recovery Improvement Act of 2013 included a provision that amended the Stafford Act to allow federally recognized tribal governments the option to directly request a Presidential emergency or major disaster declaration, after first finding that the magnitude and impact of the damage is beyond the Tribe’s capacity to respond. The Tribe also continues to have the option to request federal assistance through a state disaster declaration. See Rachel Waldholz, Alaskan Village, Citing Climate Change, Seeks Disaster Relief in Order to Relocate, NPR (Jan. 10, 2017), https://www.npr.org/2017/01/10/509176361/alaskan-village-citing-climate-change-seeks-disaster-relief-in-order-to-relocate [https://perma.cc/NK96-TPJT]; Sandy Recovery Improvement Act, Pub. L. No. 113-2, 127 Stat 39, 48 (2013).
assist in its relocation effort. However, President Obama denied the request, stating that “a major disaster declaration . . . is not appropriate to address this situation.”\footnote{FEMA, PRELIMINARY DAMAGE ASSESSMENT REPORT, NEWTOK VILLAGE – FLOODING, PERSISTENT EROSION, AND PERMAFROST DEGRADATION (Jan. 18, 2017), https://www.fema.gov/sites/default/files/2020-03/PDAReportDenial-NewtokVillage.pdf [https://perma.cc/JFS5-VYCQ].}

As a result, the tribal government continues to seek piecemeal funding through state and federal government grant programs, which are not designed to fund a community-wide relocation.\footnote{U.S. GOV’T ACCOUNTABILITY OFF., supra note 32.}

To incorporate slow environmental change, the Stafford Act disaster definition should be amended to state: 

\textit{A major disaster includes slow, ongoing environmental change, such as sea level rise and erosion, that is predicted to damage or destroy critical community infrastructure and threaten the lives of community residents within three years.}

Requiring a three-year time frame allows a local governing entity to begin a relocation process and protect people and the infrastructure upon which they depend before the environmental hazard destroys or causes severe damage to infrastructure and threatens people’s lives.

In addition to the limitations posed by requiring disaster declarations, federal funding for hazard mitigation and disaster response require a cost-benefit analysis and cost-share requirements to determine whether federal funding will be allocated.\footnote{The mitigation grant programs can require a cost sharing element in which costs are divided between the Federal government and the Grantee. The standard maximum Federal share is 75 percent, while non-Federal shares must be at least 25 percent. Both cash and in-kind contributions can be considered for the non-Federal share. Small impoverished communities are eligible for a 10% cost share, but even this amount can be prohibitive for low-income communities. \textit{Before You Apply for Building Resilient Infrastructure and Communities (BRIC) Funds}, FEMA (Sept. 30, 2020), https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities/before-apply#costs [https://perma.cc/CKW8-EM9D].}

These eligibility criteria perpetuate legacies of colonialism and discriminatory laws, such as redlining, disadvantaging low-income communities of color and tribes.\footnote{See FEMA, supra note 38.}

To rectify these compounding injustices, funding allocations could be based on the Centers for Disease Control and Prevention Social Vulnerability Index, which describes demographic and socio-economic metrics, including economic status, lack of vehicle access, and crowded housing, to assess a community’s ability to respond to natural hazards. In this way, funding can be allocated to the communities that have the least access to resources.\footnote{Barry E. Flanagan et al., \textit{Measuring Community Vulnerability to Natural and Anthropogenic Hazards: The Centers for Disease Control and Prevention’s Social Vulnerability Index}, 80 J. ENV’T HEALTH 10 (2018).}

\textbf{G. Land Policies}
Land use issues will arise when communities relocate and the land left behind has not yet been submerged. Creating regional land use policies so that there is consistency between different jurisdictions within a contiguous ecosystem is critical. These policies include prohibitions on the development of land abandoned in a relocation effort and guidelines for post-disaster redevelopment that creates criteria, prior to an extreme weather event, to identify whether recovery in a location should take place should such an event occur. Federal legislation should also ensure that people who rely on the environment for subsistence food harvesting maintain access to their traditional lands and waters during and after relocation occurs.

IV. THE PATH FORWARD

To begin to design the relocation governance framework, the CEQ and the Department of the Interior need to continue the work started by the Obama Administration. Working together, both entities need to convene regional working groups which include federal, state, local, and tribal government agencies and non-governmental organizations to create this framework. The inclusion of tribal governments and community-based organizations is critical. Representatives from affected communities must be part of any guidance. The Climate Equity Act of 2020, proposed by former U.S. Senator and now Vice President Kamala Harris and Representative Alexandria Ocasio-Cortez, includes a provision recognizing the importance of federal government accountability and proposes that frontline communities be included in any climate-related rulemaking process, grantmaking, or investment program. This is essential to ensure that the rights of those relocated are protected. Through this process, each region can create a pilot climate relocation program, as suggested by the 2020 GAO report, to inform the details of the relocation governance framework. Understanding the details of relocation

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66 FEMA offers voluntary buyouts to properties affected by flooding. Once purchased, the property is torn down and turned into open space. See FEMA, FACT SHEET: ACQUISITION OF PROPERTY AFTER A FLOOD EVENT (Nov. 15, 2018), https://www.fema.gov/news-release/20200220/qingkuangshuomingshu-hongshuishijianhoudefangchanshougou [https://perma.cc/RF8H-Z4QS].
planning and implementation in different regions of the United States will be critical to identify the common issues that must be included in the framework.

V.
CONCLUSION

Planning for the relocation of millions of people is a daunting endeavor and, given the horrific legacies of U.S. government-forced relocations, there is extreme reluctance to undertake this task. Forced population displacement is also an awful consequence of our failure to reduce greenhouse gas emissions. It is completely unjust that the people who have done the least to cause this crisis are now experiencing the loss of home and land. But they will not be the only people who will be forced to relocate. Sea levels are rising and will continue to rise far into the future. The United States needs to act now, prior to the forced relocation of millions of people, to avert a humanitarian crisis. Congress and the Obama Administration recognized this fact. Now is the time to act.