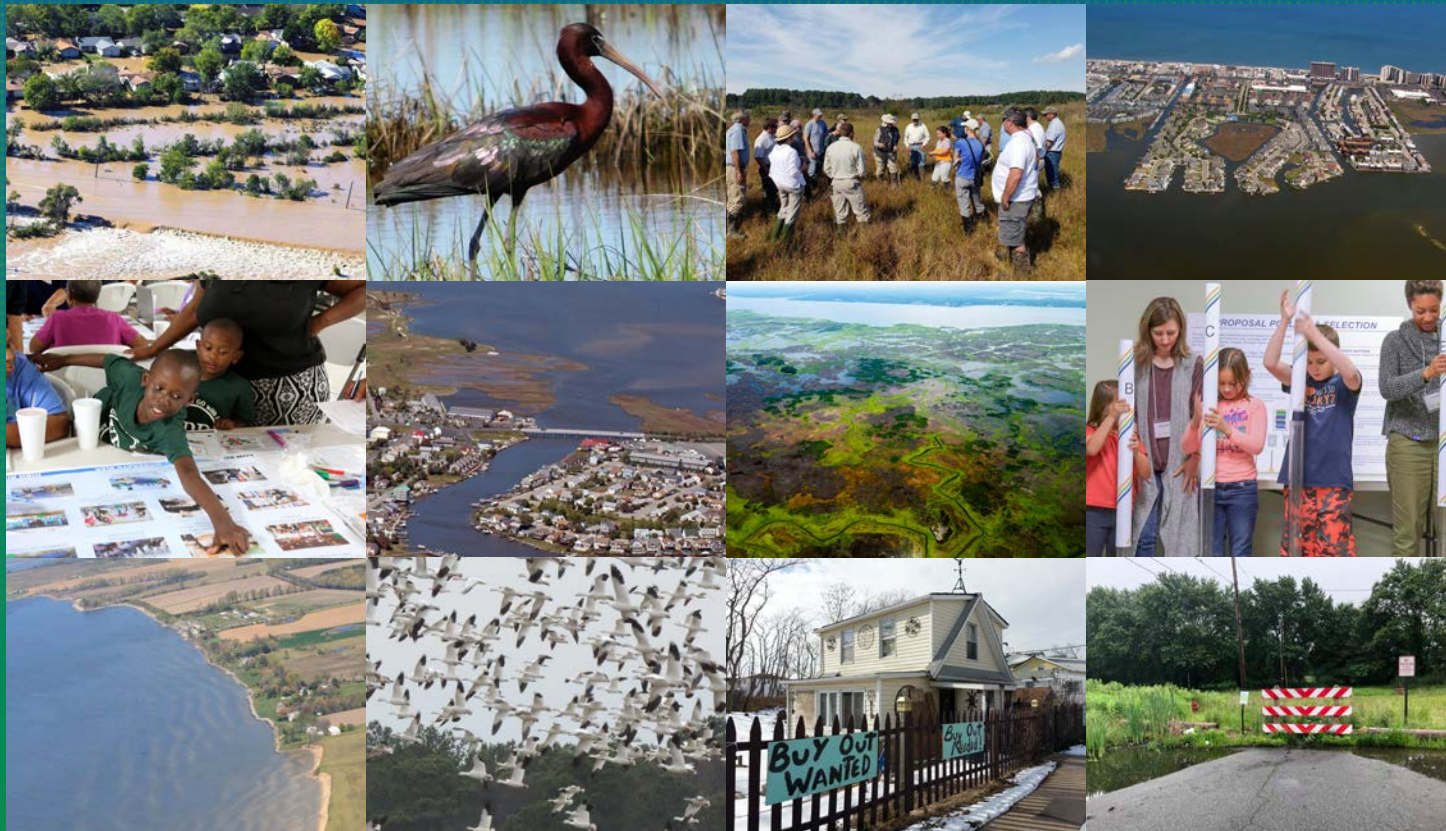


Managing the Retreat from Rising Seas

Hampton, New Hampshire: Community-Driven Climate Adaptation Planning Process



GEORGETOWN CLIMATE CENTER

Authors

This report was written by Katie Spidalieri, Senior Associate, and Isabelle Smith, Research Assistant, Georgetown Climate Center at Georgetown University Law Center; and Jessica Grannis, Coastal Resilience Director at National Audubon Society. The *Louisiana Strategic Adaptations for Future Environments (LA SAFE)* case study was written by Jennifer Li, Staff Attorney, and Alex Love, student, Harrison Institute for Public Law at Georgetown University Law Center. Editorial and writing support were provided by Vicki Arroyo, Executive Director, and Lisa Anne Hamilton, Adaptation Program Director, Georgetown Climate Center.

Acknowledgments

The authors would like to thank the Doris Duke Charitable Foundation for its generous support and guidance, and without whom the Managed Retreat Toolkit and this case study report would not have been possible.

We are also grateful for the support of the Georgetown Environment Initiative that enabled us to bring together diverse, interdisciplinary stakeholder expertise and Georgetown University faculty to inform the development of the Managed Retreat Toolkit, including Professors Uwe Brandes, J. Peter Byrne, Beth Ferris, and Sheila Foster.

We would also like to specially thank and acknowledge the following individuals for taking the time to speak with us, review drafts, and provide insights that were invaluable in helping to inform the Managed Retreat Toolkit and these case studies: Erik Meyers, The Conservation Fund; Matt Whitbeck, U.S. Fish and Wildlife Service; Justine Nihipali, Hawaii Office of Planning Coastal Zone Management Program; Mitchell Austin, City of Punta Gorda, Florida; Kelsey Moldenke, Quinault Indian Nation; Charles Warsinske, Quinault Indian Nation; Deborah Helaine Morris, formerly New York City Department of Housing Preservation and Development, New York; Lauren E. Wang, New York City Mayor's Office of Resiliency, New York;

Matthew D. Viggiano, formerly New York City Mayor's Office of Housing Recovery Operations, New York; Andrew Meyer, San Diego Audubon, California; Tim Trautman, Charlotte-Mecklenburg Storm Water Services, North Carolina; Pam Kearfott, City of Austin Watershed Protection Department, Texas; James Wade, Harris County Flood Control District, Texas; Fawn McGee, New Jersey Department of Environmental Protection; Frances Ianacone, New Jersey Department of Environmental Protection; Thomas Snow, Jr., New York State Department of Environmental Conservation; Dave Tobias, New York City Department of Environmental Protection, New York; Stacy Curry, Office of Emergency Management, Woodbridge Township, New Jersey; Sandy Urgo, The Land Conservancy of New Jersey; Joel Gerwein, California State Coastal Conservancy; Jay Diener, Seabrook-Hamptons Estuary Alliance, Hampton, New Hampshire; Kirsten Howard, New Hampshire Department of Environmental Services Coastal Program; Mathew Sanders, Louisiana Office of Community Development; Liz Williams Russell, Foundation for Louisiana; Joseph (Joe) Tirone, Jr., Oakwood Beach Buyout Committee, Staten Island, New York City, New York; and Megan Webb, King County Department of Natural Resources and Parks, Washington State.

Design:

Brent Futrell, Georgetown University Law Center Office of Communications.

©2020, Georgetown Climate Center

Georgetown University Law Center
600 New Jersey Avenue, NW
Washington, D.C. 20001

GeorgetownClimate.org

Managed Retreat Toolkit

AdaptationClearinghouse.org

Cover Photo Credits:

(top row, left to right):
Watershed Protection Department, City of Austin, Texas; U.S. Fish and Wildlife Service; U.S. Fish and Wildlife Service; Integration and Application Network, University of Maryland Center for Environmental Science.

(center row, left to right):
State of Louisiana Office of Community Development; Integration and Application Network, University of Maryland Center for Environmental Science; Will Parson, Chesapeake Bay Program, U.S. Fish and Wildlife Service; State of Louisiana Office of Community Development.

(bottom row, left to right):
Integration and Application Network, University of Maryland Center for Environmental Science; Betty Whetzel (Courtesy of U.S. Fish and Wildlife Service); Matt Green; Katie Spidalieri, Georgetown Climate Center.

Table of Contents for the Full Report

- I. About This Report**
- II. Blackwater National Wildlife Refuge, Maryland: Blackwater 2100**
- III. State of Hawaii: Assessing the Feasibility and Implications of Managed Retreat Strategies for Vulnerable Coastal Areas in Hawaii**
- IV. Punta Gorda, Florida: Climate Adaptation and Comprehensive Plans and Updates**
- V. Quinault Indian Nation, Washington: Taholah Village Relocation Master Plan**
- VI. Queens, New York: Resilient Edgemere Community Plan**
- VII. San Diego, California: ReWild Mission Bay**
- VIII. Charlotte-Mecklenburg County, North Carolina: Floodplain Buyout Program**
- IX. City of Austin, Texas: Flood Risk Reduction Buyout Projects**
- X. Harris County, Texas: Flood Control District Local Buyout Program**
- XI. New York City, New York: Land Acquisition and Flood Buyout Programs**
- XII. State of New Jersey: Blue Acres Buyout Program**
- XIII. Woodbridge Township, New Jersey: Post-Hurricane Sandy Buyouts**
- XIV. Long Beach, California: Los Cerritos Wetlands Restoration and Land Swap**
- XV. Hampton, New Hampshire: Community-Driven Climate Adaptation Planning Process**
- XVI. State of Louisiana: Louisiana Strategic Adaptations for Future Environments (LA SAFE)**
- XVII. Staten Island, New York: Oakwood Beach Buyout Committee and Program**
- XVIII. King County, Washington: Transfer of Development Rights Program**

Managing the Retreat from Rising Seas: Lessons and Tools from 17 Case Studies

About This Report

As seas continue to rise and disaster events and extreme weather increase in frequency and intensity, climate change is driving state and local policymakers to evaluate strategies to adapt to various risks affecting many communities. In addition to protection (e.g., hard shoreline armoring) and accommodation (e.g., elevating or flood-proofing structures) measures, coastal governments and communities are increasingly evaluating managed retreat, where appropriate, as a potential component of their comprehensive adaptation strategies. Managed retreat is the coordinated process of voluntarily and equitably relocating people, structures, and infrastructure away from vulnerable coastal areas in response to episodic or chronic threats to facilitate the transition of individual people, communities, and ecosystems (both species and habitats) inland.

The aim of managed retreat is to proactively move people, structures, and infrastructure out of harm's way before disasters occur to maximize benefits and minimize costs for communities and ecosystems. For example, policymakers may maximize opportunities for flood and risk reduction by conserving wetlands and protecting habitat migration corridors and minimize the social, psychological, and economic costs of relocation by making investments in safer, affordable housing within existing communities.

This report is composed of 17 individual case studies. Each one tells a different story about how states, local governments, and communities across the country are approaching questions about managed retreat. Together, the case studies highlight how different types of legal and policy tools are being considered and implemented across a range of jurisdictions — from urban, suburban, and rural to riverine and coastal — to help support new and ongoing discussions on the subject. These case studies are intended to provide transferable lessons and potential management practices for coastal state and local policymakers evaluating managed retreat as one part of a strategy to adapt to climate change on the coast.

Collectively, these case studies present a suite, although not an exhaustive list, of legal and policy tools that can be used to facilitate managed retreat efforts. Legal and policy tools featured include: planning; hazard mitigation buyouts and open space acquisitions, as well as other acquisition tools like land swaps and reversionary interests; land use and zoning; and Transfer of Development Rights programs. The case studies also highlight various policy tradeoffs and procedural considerations necessitated by retreat decisions. Each jurisdiction is confronting different challenges and opportunities and has different, perhaps even competing, objectives for retreat. In addition, stakeholders in each of these cases are attempting to balance multiple considerations, including:

protecting coastal ecosystems and the environment; fostering community engagement and equity; preparing “receiving communities” or areas where people may voluntarily choose to relocate; and assessing public and private funding options and availability. The case studies included in this report were selected to reflect the interdisciplinary and complex nature of retreat decisions and underscore the need for comprehensive solutions and decisionmaking processes to address these challenging considerations.

Where possible, all of the case studies share a consistent organizational format to allow easier cross-comparison of strategies, processes, and takeaways:

- The **Background** section introduces state or local context for each case study, including the risks and hazards facing each jurisdiction and its road to considering or implementing managed retreat strategies.
- The **Managed Retreat Examples** section focuses on the legal and policy tools that have been designed and implemented to support managed retreat strategies on the ground.
- The **Environment** section highlights how floodplains and coastal ecosystems have been restored, conserved, and protected as a part of comprehensive managed retreat strategies to provide ecosystem and community benefits, like reducing flood risk and creating community assets such as parks and trails.
- The **Community Engagement** section summarizes how affected residents have been contributing to planning and decisionmaking processes for climate adaptation and managed retreat.
- The **Funding** section identifies how the programs, plans, and projects discussed have been funded by federal, state, and local government and private sources.

- The **Next Steps** section captures the anticipated future actions that jurisdictions may take in implementing these managed retreat strategies.
- The **Considerations and Lessons Learned** section concludes with the primary takeaways from each example that other coastal state and local policymakers and communities may consider when developing or implementing their own managed retreat strategies using these legal and policy tools.

The case studies in this report were informed by policymakers, practitioners, and community members leading, engaging in, or participating in the work presented in this report. No statements or opinions, however, should be attributed to any individual or organization included in the *Acknowledgements* section of this report. It is also important to note that the programs and planning processes described in each case study are ongoing and the content included in this report is current as of early 2020. Future updates about these case studies will be captured in Georgetown Climate Center’s online resources on managed retreat.

These case studies were written to support Georgetown Climate Center’s Managed Retreat Toolkit, which also includes additional case study examples and a deeper exploration of specific legal and policy tools for use by state and local decisionmakers, climate adaptation practitioners, and planners. For future updates about these and other case studies and the Managed Retreat Toolkit, please visit the **Managed Retreat Toolkit** and the **Adaptation Clearinghouse**.

Hampton, New Hampshire: Community-Driven Climate Adaptation Planning Process

Executive Summary

The coastal town of Hampton, New Hampshire has identified the need for long-term climate adaptation planning to address the impacts of sea-level rise and improve community resilience to coastal flooding through a state-local, public-private partnership. This ongoing adaptation planning process that started in 2018 is being led by the Seabrook–Hamptons Estuary Alliance (SHEA) — a local conservation nonprofit — with support from others including the New Hampshire Department of Environmental Services Coastal Program (NH Coastal Program) and town officials and staff. The approach taken by SHEA and the NH Coastal Program offers a unique example of community-driven, multifaceted planning focused on informing and educating the community through a series of workshops and surveys to gauge awareness and opinions across a range of different adaptation strategies. The adaptation strategies presented to the community for consideration include: protection (“keep water out”), accommodation (“live with water”), and managed retreat or relocation (“get out of the water’s way”). The results of these efforts are being used to inform local actions going forward, including potentially adding climate adaptation planning for coastal hazards in the town’s master plan or considering implementation of a voluntary buyout program. Policymakers and planners in other municipalities may find Hampton’s work instructive for how to increase awareness of the benefits and tradeoffs of retreat across a spectrum of adaptation strategies at the outset of community-driven, public-private decisionmaking processes.



High Tide Flooding in Hampton.

This image depicts high tide flooding on properties adjacent to Brown Avenue in Hampton in March 2019. Brown Avenue is on the salt marsh side of Hampton Beach (which is a barrier beach) and is more frequently impacted by tidal fluctuations than storm surges.

Credit: Jay Diener, Seabrook-Hamptons Estuary Alliance.

Background

Hampton, New Hampshire is a coastal town in southeast New Hampshire, covering an area of approximately 14 square miles, with a year-round population of nearly 16,000 residents. The town is located at the confluence of where the Hampton River enters into Hampton Bay and the Atlantic Ocean. Hampton is home to a number of wetlands, rivers, and Hampton Beach, a popular summer tourist destination that can attract over 80,000 people in the summer months.

The highest elevation in Hampton is around 140 feet above sea level. Low-lying areas of the town on the Atlantic Ocean coast are increasingly vulnerable to the impacts of flooding from sea-level rise and storm surges, especially during high tides. Although many properties along the barrier beaches in Hampton are protected from high tides and storms, low-lying parts of the town located along the Atlantic coast and along the town's salt marsh and rivers are increasingly affected by high tide flooding due to rising seas. In 2014, the regional Rockingham Planning Commission developed a *Tides to Storms* vulnerability assessment for Hampton.¹ In 2018, two Nor'easter storms catalyzed some local responses to flooding.

For example, the local government passed a high tide parking ordinance that allows flood-prone residents to park in higher elevation lots at no charge when high tides are ten feet or greater in height. Regardless, these types of action have not been implemented as a part of comprehensive efforts to adapt to current and future flooding impacts. As a result, the town has identified the need for a longer-term plan.

Managed Retreat Examples

Community Engagement

In order to address coastal flooding and adapt to the impacts of climate change, the Seabrook-Hamptons Estuary Alliance (SHEA) — a local conservation nonprofit — is leading a local effort to plan for, manage, and guide long-term adaptation in Hampton.² This work is being supported by the New Hampshire Department of Environmental Services Coastal Program (NH Coastal Program), among others, and being implemented through a multi-phased approach. During Phase One, SHEA and NH Coastal Program developed and held a series of workshops — called Building a Flood Smart Seacoast — to provide information to property owners and town officials about the impacts of coastal flooding on properties and structures.³ The workshops aimed to help affected property owners become more resilient. During the workshops, residents brought up questions about managed retreat and buyouts, especially in the context of having difficulties selling their homes as insurance premiums increase due to more frequent and intense flooding and storms. These concerns, raised by residents themselves, allowed SHEA and NH Coastal Program to facilitate discussions on these topics.

In addition, SHEA and NH Coastal Program carried out a Situation Assessment to survey and interview Hampton residents and property owners about flooding impacts, costs, concerns, and experiences.⁴ One of the objectives of the Situation Assessment was to gain a better understanding of people's awareness and perception of voluntary buyouts and managed retreat in Hampton. The Situation Assessment identified Hampton's need to reduce flooding impacts and vulnerabilities of people and property, and the range of strategies available to adapt. These strategies were grouped into three categories: protection ("keep water out"), accommodation ("live with water"), and managed retreat or relocation ("get out of the water's way").

Ultimately, the survey found that 94 percent of respondents believed that Hampton needs a long-term approach to adapt to sea-level rise, and 71 percent agreed or strongly agreed that managed retreat could be one component of a long-term adaptation strategy. In addition, over two-thirds of participants agreed or strongly agreed that they would participate in future discussions about managed retreat or voluntary buyouts. In contrast, opinion questions highlighted some concerns about a managed retreat program and buyouts, particularly regarding how they could change the sense of community in Hampton. Overall, however, the responses indicated a desire among participants to learn more about managed retreat and voluntary buyouts.

After the workshops and Situation Assessment, SHEA and NH Coastal Program proceeded into Phase Two in January 2019 by establishing the Coastal

Hazards Adaptation Team (CHAT).⁵ CHAT is comprised of different state and local stakeholders (e.g., members of the Hampton Board of Selectmen, Planning Board, Zoning Board of Adjustment, Budget Committee, Department of Public Works, Hampton Beach Village District, Hampton Beach Area Commission, and the Hampton Town Planner and the Hampton Conservation Coordinator). CHAT will assess Hampton's vulnerabilities and the Situation Assessment's results and seek to inform local adaptation actions going forward, including the possibility of drafting a Coastal Management section chapter in Hampton's Master Plan as a part of its five-year update. CHAT had its first meeting in January 2019 and will potentially consider creating a local buyout program, among evaluating other options to adapt to coastal flooding and become more resilient.

The overarching goal of this local effort supported by the state is to empower Hampton to effectively plan for and adapt to coastal flooding through a community-driven, multifaceted approach. The workshops, Situation Assessment, and CHAT are educating property owners and local officials about voluntary buyouts and managed retreat. Ongoing Flood Smart Roundtable discussions enable residents to raise specific concerns and have them addressed, as well as provide opportunities for local/regional experts to provide more information about specific flood-related issues. Education and community engagement efforts have increased awareness of the benefits and reasons for "getting out of the water's way" to ensure that Hampton considers retreat, particularly in the town's most vulnerable areas.

Funding

The Hampton team has been utilizing different sources of government and nongovernmental funding to support its work. The first phase and the Situation Assessment were funded by a Climigration grant (to fund community-led processes considering managed retreat)⁶ from the nonprofit Consensus Building Institute,⁷ and provided by the Lincoln Financial Group. CHAT and the comprehensive plan evaluation are being funded, in part, by the National Oceanic and Atmospheric Administration's Office for Coastal Management under the Coastal Zone Management Act in conjunction with the NH Coastal Program. Future funding may be identified as potential adaptation actions and projects are advanced at the local level.

Next Steps

Since January 2019, CHAT has been meeting on a monthly basis and has reviewed other coastal towns' and cities' adaptation approaches including voluntary retreat or relocation incorporated into their master plans; has reviewed and updated local maps to identify streets and neighborhoods most vulnerable to flooding; and is looking at a new methods to increase a property's flood resilience. CHAT will continue convening into 2020 to consider potential next steps including identifying different adaptation strategies and projects. CHAT's outputs will also help inform the development of the new Coastal Management section of Hampton's Master Plan.

In late 2019, the town approved a Letter of Intent to apply to the Federal Emergency Management Agency (FEMA) for funding through the Pre-Disaster Mitigation grant program.⁸ The town came to this conclusion after evaluating different potential funding sources. The town envisions that Pre-Disaster Mitigation grants would pay the regional planning commission to apply for and manage FEMA-funded projects, including structural elevations and voluntary buyouts. CHAT found that this regional approach to funding was a better alternative, at least in the short-term, than hiring additional local staff to manage these responsibilities.

Considerations and Lessons Learned

The ongoing work in Hampton is notable for its phased, locally led approach to educating and engaging residents about potential options to adapt to coastal impacts from climate change. Other municipalities could consider adopting a similar approach for facilitating discussions about climate adaptation and managed retreat in their own communities. In particular, it is important to empower and put local residents and decisionmakers at the center of these processes. As demonstrated by the results of the Situation Assessment, surveying local attitudes and opinions across the spectrum of adaptation strategies — protection, accommodation, and retreat — can help local governments prioritize actions and policies. As residents' responses revealed in

Hampton, surveys can serve as the foundation to start a dialogue at the local level even on more complex subjects like managed retreat and buyouts. The Hampton team responded to people's questions about buyouts and flood insurance, which allowed the community to consider the benefits and tradeoffs of retreat at the outset of this process in lieu of solely viewing it as a post-flood option of last resort.

In addition, the state and local partnership led by Seabrook–Hamptons Estuary Alliance is helping to ensure that any potential adaptation responses are coordinated across various government and nongovernmental entities that are involved. Coastal states and municipalities can seek opportunities to partner with nonprofits, regional planning commissions, universities, and others as they work to evaluate climate adaptation and managed retreat in their own communities. Partnerships can help distribute costs among partners but require a long-term commitment of funding and staff time that should be established upfront to set expectations and project objectives. Regardless, phased approaches conducted in collaboration with a broad cohort of public and private partners can support robust community engagement and ensure that adaptation initiatives are in step with community priorities.

Endnotes

- 1 ROCKINGHAM PLANNING COMM'N, *TIDES TO STORMS: ASSESSING RISK AND VULNERABILITY TO SEA-LEVEL RISE AND STORM SURGE — A VULNERABILITY ASSESSMENT OF COASTAL NEW HAMPSHIRE* (2014), *available at* <https://www.therpc.org/regional-community-planning/climate-change/tides-storms>.
- 2 SEABROOK–HAMPTONS ESTUARY ALLIANCE, <http://shea4nh.org/> (last visited Oct. 30, 2019).
- 3 *Building a Flood Smart Seacoast*, SEABROOK–HAMPTONS ESTUARY ALLIANCE, <http://shea4nh.org/floodsmart-seacoast/> (last visited Oct. 30, 2019).
- 4 SEABROOK–HAMPTONS ESTUARY ALLIANCE, *FLOODING IN HAMPTON, NH SITUATION ASSESSMENT* (Jan. 2019), *available at* http://shea4nh.org/wp-content/uploads/2019/08/SHEA_SituationAssessment_Final.pdf (prepared by EF Design and Planning, LLC in collaboration with the Seabrook–Hamptons Estuary Alliance and the New Hampshire Coastal Program).
- 5 *Coastal Hazard Adaptation Team*, SEABROOK–HAMPTONS ESTUARY ALLIANCE, <http://shea4nh.org/2019/08/01/coastal-hazards-adaptation-team-chat/> (last visited Oct. 30, 2019).
- 6 *Climigration Awardees Named*, CLIMIGRATION: SHOULD WE STAY OR SHOULD WE GO? (Oct. 2018), <http://www.climigration.org/awards>.
- 7 CONSENSUS BUILDING INSTITUTE, <https://www.cbi.org/> (last visited Oct. 30, 2019).
- 8 Georgetown Climate Ctr., *Pre-Disaster Mitigation Grant Program*, ADAPTATION CLEARINGHOUSE, <https://www.adaptationclearinghouse.org/resources/pre-disaster-mitigation-grant-program.html> (last visited Nov. 12, 2019).

GEORGETOWN CLIMATE CENTER

GeorgetownClimate.org

AdaptationClearinghouse.org