

Building Community Resilience

Lessons from Frontline Leaders

www.ucsusa.org/resources/building-community-resilience
doi.org/10.47923/2023.15134

Astrid Caldas, Union of Concerned Scientists

Lanor Curole, United Houma Nation

Juan Declet-Barreto, Union of Concerned Scientists

Hilton Kelley, Community In-Power and Development Association Inc.

Eva Olivas, Phoenix Revitalization Corporation

J. Pablo Ortiz-Partida, Union of Concerned Scientists

Alicia Race, Union of Concerned Scientists

Tania Rosario Méndez, Taller Salud

Reverend Leo Woodberry, New Alpha Community Development Corporation

June 2023

CONTENTS

Introduction	3
Displacement	4
Government Negligence	6
Funding	7
Community-Driven Solutions	8
Local Solutions to Unique Challenges in Resilience Building	10
Recommendations for Policymakers	11
Recommendations for Adaptation Practitioners	11
Conclusion	12
Authors	12
Acknowledgments	13
References	13

Introduction

Creating resilience to the inequitable impacts of the climate crisis on frontline communities requires effective partnerships between scientists and communities. These partnerships, and the collaborations that emerge from them, must be built on mutual respect, transparency, reliability, and recognition that communities' priorities must also be scientists' priorities.

Over the last four years, as part of its commitment to working toward racial, environmental, and climate justice, the Union of Concerned Scientists (UCS) has partnered with a cohort of representatives from frontline community organizations facing events made more extreme by climate change. The representatives are Lanor Curole, tribal administrator of United Houma Nation, Louisiana; Hilton Kelley, founder and director of Community In-Power and Development Association Inc., Texas; Eva Olivas, executive director of Phoenix Revitalization Corporation, Arizona; Tania Rosario Méndez, executive director of Taller Salud, Puerto Rico; and Reverend Leo Woodberry, executive director of New Alpha Community Development Corporation, South Carolina. The communities these organizations serve are a sample—not an exhaustive list—of people and places across the United States and its territories facing the compounding impacts of historical and ongoing racial, economic, and climatic injustices in a warming world.

In October 2022, UCS and our partners convened in Baltimore, Maryland, at the Fifth National Adaptation Forum (NAF). The NAF is a conference for people working in climate adaptation in the United States that brings together scientists, nonprofit organizations, frontline community groups, businesses, and representatives from federal, state, local, tribal, and territorial governments. In this paper, we synthesize the climate impacts, adaptation measures, and resilience experiences the partners raised as panelists for the session titled “Creating Broader Understanding of Challenges and Opportunities for Increasing Adaptation in Climate-Impacted Communities: A Conversation with Local Leaders on the Frontlines of Climate Impacts.” We link partners' experiences of climate impacts to well-established scientific data and literature, then make several science- and evidence-based recommendations for policymakers and adaptation practitioners, highlighting the challenges, opportunities, and needs of frontline communities for achieving climate resilience. The purpose of this paper is to demonstrate that communities are capable of building resilience, benefit from meaningful scientist-community partnerships, and need adaptation professionals and policymakers to remove barriers that hinder community sovereignty and success.

In our synthesis process, four common themes emerged as challenges and opportunities for increasing resilience in frontline communities: displacement, government negligence, funding, and community-driven solutions.



Eva Olivas, Phoenix Revitalization Corporation; Hilton Kelley, Community In-Power and Development Association Inc.; Astrid Caldas, Union of Concerned Scientists; Juan Declat-Barreto, Union of Concerned Scientists; Tania Rosario Méndez, Taller Salud; Lanor Curole, United Houma Nation; and Reverend Leo Woodberry, New Alpha Community Development Corporation at the Fifth National Adaptation Forum in Baltimore, Maryland, October 2022. Photo: Alicia Race/UCS.

Displacement

Many communities at the forefront of climate change have already had to adapt, build resilience, or grapple with the possibility of forced displacement. In the United States and its territories, Indigenous peoples have been forcefully dispossessed of almost all their traditional lands by European settler-colonizers (Farrell et al. 2021). And although the 13th Amendment abolished nearly 400 years of the institution of slavery in the United States—with some exceptions (Marjanovic 2023)—freed Black people were not granted valuable, productive land like White settlers and, instead, were pushed into low-lying, undesirable lands—especially in the coastal South. The historical and contemporary practices of segregation and redlining have further pushed communities, especially Black, Latine (used here as a nongendered form of Latino/a), and Indigenous populations, into inadequate and unacceptable conditions.

“We have to understand how we came to be where we are. Our tribe currently lives in coastal southeast Louisiana. At first contact in the 1600s, our home was north of Baton Rouge. As more and more Europeans moved into Louisiana, our tribe had a migration into the lower bayou areas. In the 1800s, our final push into those swampy areas was when our last known village was burned by European settlers who wanted to create their own town square and a courthouse. Leadership at that point moved our tribal citizens into lower bayou areas on what was considered uninhabitable lands. That’s the story of centuries of adaptation.” —Lanor Curole

“African Americans were set free, but to go where? We couldn’t live in nice places or go into certain establishments. We were forced to live in low-lying areas, and now in 2022, many of us still live in those areas. We learned to coexist with floods, but now with more hurricanes and climate change, waters are rising. At what point [do] our federal and state governments take ownership of forcing us to live in those areas knowing since back then they were mosquito-ridden, flooding areas?” —Hilton Kelley

Now, with climate impacts becoming more frequent, more severe, and more likely to compound one another (Tollefson 2022)—such as when a hurricane or flood is concurrent with a heat wave—communities must ask themselves whether they will move. Where Kelley lives in Port Arthur, Texas, he acknowledges, “Many of [the residents of this community] do not wish to relocate, but for those that can no longer fight, who don’t have the will anymore because they’ve been through too many storms . . . let’s look at fair and equitable relocation.”

And the climate impacts are not happening only along the coast. Inland communities deal with displacement due to flooding, wildfires, and insufficient water supplies, and people may soon be leaving places because of unrelenting, lethal heat (Nawrotzki et al. 2017). Tania Rosario Méndez says, “Displaced communities are not isolated events. The politics of displacement by design are a real threat to the survival of our resilience movement. And they should be addressed accordingly.”

Building community resilience requires knowing, acknowledging, and respecting the history of the land and the people who have endured hardships. The lived experience through centuries of systemic racism, violence, and oppression is crucial to informing and developing equitable and just solutions.

{ African Americans were set free, but to go where? We couldn’t live in nice places or go into certain establishments. We were forced to live in low-lying areas, and now in 2022, many of us still live in those areas. We learned to coexist with floods, but now with more hurricanes and climate change, waters are rising. At what point [do] our federal and state governments take ownership of forcing us to live in those areas knowing since back then they were mosquito-ridden, flooding areas? }

—Hilton Kelley, Community In-Power and Development Association Inc. }

Government Negligence

Unfortunately, there is no shortage of stories of disaster responses that were insufficient, inadequate, or, in the case of Puerto Rico, made people more vulnerable to future risks.

“In the past five years, Puerto Rico faced multiple natural disasters, including two Category 5 hurricanes, earthquakes, heavy rain, storm surge, as well as a multiyear pandemic. These events occurred during an economic recession while enduring fiscal austerity measures, as well as a political context of corruption and mismanagement. As a result, there is a general lack of trust in the federal and territorial governments’ ability to effectively respond to disasters, because when they should play critical roles, they are an enormous obstacle.” — Rosario Méndez

The mission of the Federal Emergency Management Agency (FEMA) is to help people before, during, and after disasters. However, the bureaucratic processes that come with this aid often fail to serve the community members most in need, delaying respite or leaving people in FEMA trailers indefinitely, often placing additional burdens on people who are already suffering. The disaster response approach that the government takes is the first obstacle (Reinke and Eldridge 2020).

“The traditional [US] model is very paternalistic—the system is ‘we take care of you, and we make decisions for you.’ It’s just viewed very differently in our tribal system, where when individuals take a position of power, they’re there in service to the community. Their role is really to make themselves humbled to the community,” says Curole.

Responders from outside of the community and those with decisionmaking power may not understand or respect the needs of the people. After Hurricane Ida, United Houma Nation members were asked to sit and wait patiently for hours in the heat, after losing everything, so they could interview with FEMA—that is, until Curole as tribal administrator stepped in and proposed a more effective and humane process that would give people the space and time to grieve. After a hurricane in South Carolina, Rev. Leo Woodberry’s community desperately needed diapers, but these items were not included in the emergency supplies received through federal disaster relief efforts. This failing reflects a disconnect between what is needed and what outsiders think is needed.

“The traditional [US] model is very paternalistic—the system is ‘we take care of you, and we make decisions for you.’ It’s just viewed very differently in our tribal system, where when individuals take a position of power, they’re there in service to the community. Their role is really to make themselves humbled to the community.”

— Lanor Curole, United Houma Nation

Further, Kelley has witnessed discrimination by federal emergency responders and disaster relief providers, a commonly documented observation (Rodriguez-Díaz and Lewellen-Williams 2020). Because of segregation and displacement, the community is already undervalued—and, adding to the challenges, when disaster strikes and homes are destroyed, people living in vulnerable areas do not get a fair assessment of damages, which contributes to the lack of financial resources needed to keep a community afloat (Billings, Gallagher, and Ricketts 2022; Willison et al. 2019). Kelley emphasizes that this keeps people mired in substandard conditions and without the opportunity to rebuild safely or move away from danger due to lack of financial equity and capacity. Says Kelley, “We have a lot of work to do by working together and FEMA doing a fair job assessing our homes after we’ve been flooded out and giving us fair equity when it comes to finances to rebuild—which many people want to do. Not everyone can leave the coastal area.”

For Indigenous groups, tribal sovereignty and recognition by the United States government affects their authority and ability to protect their people. The United Houma Nation has been a state-recognized tribe in Louisiana since 1977. In the 1970s, the tribe began the supposed 18-month process of pursuing federal recognition, but today—decades later—they are still fighting for it. The lack of recognition prevents them from exercising their rights, representing the tribe in decisionmaking spaces, and protecting their tribal sovereignty. This bureaucratic delay places undue challenges on the tribe; such barriers must be lifted for the community to build resilience.

Communities need resources for daily necessities, outside help for cleanup and rebuilding, and assistance to keep people safe after a disaster. The leaders of the response must prioritize the true needs of the community, looking to community leaders for guidance. Moreover, response leaders must avoid creating additional hardships. “Disasters are not natural. Events are natural. Disasters are political. Therefore, there are always people accountable,” states Rosario Méndez. Disasters such as these, in Rosario Méndez’s lived experience, have been identified as the consequences of decisions made by those with decisionmaking power (Sen 1982). These decisions have both deprived frontline communities of the resources needed to avoid the worst of natural events and made them vulnerable in the first place. Fortunately, change is happening—because of such harmful disaster practices, Dr. Samantha Montano co-founded Disaster Researchers for Justice (DRJ) for scholars to work together to realize their “moral obligation to work for justice” (DRJ n.d.).

We have community-driven and scientifically sound solutions to protect people today and reduce global warming in the future. What we need is the political will and action of elected officials across every level of government to deploy these solutions. “We have been impacted by the climate crisis for decades. We are now on the brink of a climate emergency because every single day in this country there is a climate impact. What happens when you have a crisis and you don’t respond? Well, it turns into a catastrophe.” —Rev. Woodberry

Funding

Building resilience takes money. The good news is that every dollar invested in hazard mitigation can save six dollars in disaster response costs (Multi-Hazard Mitigation Council 2019). The bad news is that communities do not receive these types of predisaster risk reduction investments, resulting in too little, too late after a disaster has struck (Shi and Moser

2021). For community organizations, grantmaking and philanthropy processes are burdensome and often require an extensive amount of work for relatively little funding.

Eva Olivas of the Phoenix Revitalization Corporation (PRC) identifies several of the challenges that she faces as the executive director of a small organization. For one, grants often do not include money for essential expenses like rent and electricity. Also critical is ensuring that staff are paid living wages and that salaries are competitive enough to attract the best. In the grant process, though, Olivas says, “It’s like they expect you to give pennies to your staff, but we need quality staff in order for us to do our work.” Larger organizations have fully equipped teams, dedicated grant writers, and infrastructure to apply for and win significant funding that includes reasonable overhead costs. PRC, however, does not have a grant writer on staff. Olivas serves in this role in addition to the many other roles she fills. Furthermore, grants are often given for a one-year term. She argues that funding must be granted for three- to five-year cycles to make an award worth the time invested to apply.

“It’s like [funders] expect you to give pennies to your staff, but we need quality staff in order for us to do our work.”

— *Eva Olivas, Phoenix Revitalization Corporation*

Also, community-based organizations need resources to be able to apply for federal and state resilience funds and reduce barriers to access. Larger, better-resourced, and often historically White-led organizations (including UCS) can secure significant amounts of funding, whereas community-based groups struggle to obtain funding for their vital work. Community-based groups have long called out these funding inequities. Larger organizations must do more to channel some of their funding to environmental justice and grassroots organizations, and more importantly, help build direct relationships between funders and community-based organizations so as not to act as regrantees or gatekeepers. Rev. Woodberry calls these regrantee allocations “Hansel and Gretel crumbs” because they quickly disappear to cover administrative and overhead costs. He explains that community organizations like his are capable of receiving larger grants and making their own hiring decisions to implement and fulfill the grant requirements. Kelley also asks for greater support for nonprofits on the frontline fighting these issues. Community-based organizations sorely need opportunities to obtain more sizable grants, and these awards must be given directly to them.

Community-Driven Solutions

People are experts in their own lived experiences, and they do not need to have scientific degrees to prove their expertise. Community members know how flooding, hurricanes, fires, drought, and heat affect their people, and they know how to reach the people in the community most vulnerable to these events (e.g., people who are older, disabled, unhoused, etc.). Communities are already doing the work to build resilience despite limited resources and barriers.

One common challenge for frontline communities is when outside technical experts make assessments without input or collaboration from local community members. A long history

exists of science and scientists causing harm in communities and to specific populations (Bergeron 2021; Nelson 2019). Yet, when done right, scientists can be effective partners alongside community members and utilize science to make positive change, an example being the partnerships that led to this paper (see UCS n.d. for more on addressing racial inequity with science). Whatever the process, it must be rooted in collaboration and cocreation with community members.

Curole gives an example of how technical expertise without input or collaboration has been problematic: cost-benefit analyses among United Houma Nation members undervalue peoples' homes and lead to decisions on whether a person or place is "worthy of being saved." The Houma people value assets in their communities differently than the system or status quo—so any assessment without community input fails to reflect their values and priorities. The solution is to build meaningful partnerships with the people of the community based on trust, transparency, and collaboration (Fernandez-Bou et al. 2021). Rosario Méndez sums this up perfectly: "Participation is not the same as decisionmaking capacity. We don't want to be 'heard'; we want to effectively inform public policy and resource allocation. And that is not the same." Indigenous peoples and local communities have long suffered from not having a seat at the table for climate-related decisionmaking. They should be able to represent themselves on equal footing with other actors so that their experiences, knowledge systems, and cultural traditions contribute to collaborative resilience strategies (Morel et al. 2022).

"Participation is not the same as decisionmaking capacity. We don't want to be 'heard'; we want to effectively inform public policy and resource allocation. And that is not the same."

— Tania Rosario Méndez, Taller Salud

The issue of electricity generation in Puerto Rico represents what happens when solutions are not place-based and fail to serve the intended community. Says Rosario Méndez, "In Puerto Rico, you have all the generation of electricity in the south. So you have the communities in the south facing pollution, when the people who needed the electricity most were in the north part of the island. And then when you have an electrical power grid that collapses, the solution is too far from certain communities, so they become pockets—in Spanish, like, for real, they are called 'pocket communities'—that kind of get forgotten." She emphasizes the point that solutions must be decentralized and desiloed to serve communities better.

This problem can usually be at least partially solved by engaging community members in identifying solutions, but community members are also taking matters into their own hands. Rev. Woodberry says, "We can no longer just wait on federal governments, corporations, utilities, and others to come up with the solutions that we need. Instead, we spell "IRON"—Implementation with Resolve, creating Opportunity, and using Novel approaches. If we look at the history of this country, we realize that a lot of problems . . . have been solved by people who've worked together from the ground up. We have to realize that it is going to take each and every one of us to work on this issue. No matter who we are, we all have to pull together, or else we're all going to sink and die together. It's time to usher in the era of the IRON will."

“If we look at the history of this country, we realize that a lot of problems . . . have been solved by people who’ve worked together from the ground up. We have to realize that it is going to take each and every one of us to work on this issue.”

*— Reverend Leo Woodberry, New Alpha
Community Development Corporation*

LOCAL SOLUTIONS TO UNIQUE CHALLENGES IN RESILIENCE BUILDING

In listening to our partners, we learn a lot about their priorities and how they are addressing their challenges. For instance, in Florence, South Carolina, where flooding is a primary concern, Rev. Woodberry’s organization has invested in various projects to increase the resilience of the community. The Wetlands Project includes the construction of a resilience center where youth can learn trades and horticulture. They will have a community garden and a nursery for tree species to be used in the restoration of river margins, increasing protection against floods. They have also installed a pilot solar-powered water capture and filtering system to provide water sustainably to the community. Other solutions the community has developed and implemented include workforce training, air quality monitoring, water quality testing, solar-powered disaster relief kits, solar-powered electric bikes, electric vehicle charging stations, mobile internet hotspots, and energy efficiency upgrades.

In Phoenix, Arizona, the Phoenix Revitalization Corporation cultivates local leadership through their Wisdom in Neighborhoods (W.I.N) Ambassadors program. Through this program, they recruit and train 20–24 local residents of the Central City South and South Phoenix neighborhoods to inform the Central City South Quality of Life plan. The plan supports safe, sustainable neighborhoods and addresses issues such as transportation, health, housing, and recreation, for which extreme heat poses additional health and safety risks.

In Port Arthur, Texas, where air quality and extreme heat are the main issues, in addition to advocating for legislative changes and holding industrial operations accountable, Kelley’s organization monitors air quality through sampling and analysis. It also offers a variety of services to the community, from educational opportunities to organizing.

In the United Houma Nation, loss of land to sea level rise and hurricane impacts is front and center. The tribal administration keeps a roster of all tribal members and offers assistance immediately in the aftermath of a disaster for those who need it. Having the resources for community care is important, as are the abilities to obtain funding for the implementation of adaptation measures and to support sustainable and cultural practices in line with their heritage. Cultural heritage, including Indigenous knowledge and traditional practices, while at risk from climate impacts, is also an invaluable repository for measures to build resilience. Maintaining culture and ways of living is as important as protecting the land and keeping water accessible (Kassam et al. 2021).

In Loíza, Puerto Rico, before Hurricane María, access to safe housing was seen by Taller Salud as necessary only to support the healing process of victims of domestic violence and not as a basic asset that when absent endangers the lives of all Puerto Rican women, especially Black

Puerto Rican women. However, the hurricane catapulted Taller Salud quickly toward issues they were already positioned to tackle. Their immediate focus became to save lives affected by the event. They collected food, water, and necessities, visiting shelters to identify special needs among various groups, for example, women who were victims of domestic violence. They organized brigades for collecting and distributing food while they waited for rescues and help from the government that never came. The community took that work upon themselves and rescued survivors and bedridden people in dinghies, personal watercrafts, and kayaks.

Recommendations for Policymakers

- Reach out to community leaders and identify the members of the community most vulnerable to climate impacts and whom your policy seeks to benefit, engaging them in the process.
- Reduce barriers to federal, state, and local funding to streamline processes for underresourced environmental justice and frontline community organizations.
- Respect tribal sovereignty.
- Ensure fair and equitable assessment of damages after a disaster by involving community members in the process.
- Review and improve disaster recovery policies, including the deployment of aid and resources and the implementation of recovery actions so as not to perpetuate harm on those who most need help.
- Gear more funds, in addition to the levels mandated by the Justice40 Initiative, specifically toward environmental justice communities' recovery and resilience building (White House 2022).
- Ensure that communities, including marginalized members, have representation in the decisionmaking processes for the siting and construction of new facilities and infrastructure that can negatively affect their well-being and livelihoods.

Recommendations for Adaptation Practitioners

- Seek to understand the political and socioeconomic barriers—as well as barriers created by structural racism—that hinder the success of communities, standing in solidarity with these communities to remove those barriers (e.g., United Houma Nation's lack of federal recognition).
- Prioritize community participation in project decisions to ensure meaningful representation from inception to completion, acknowledging and acting on the principle that informing members of the community is not enough.
- Ensure that project efforts focus on communities' priorities and include cultural and historical values; respect and learn from the community's lived experiences.

- Collaborate with lesser-resourced community groups to help them secure funding, including offering capacity for writing grants and submitting disaster assistance requests.
- Enter into a memorandum of understanding or a memorandum of agreement as appropriate when working with partners, to clearly define roles, expectations, financial details, and ownership of data and results.
- Respect tribal sovereignty and work with tribal leadership when your projects are on or near tribal lands.
- Include education and outreach components so that communities and their members become more knowledgeable prior to asking them to contribute ideas and decide on issues.

Conclusion

It is abundantly clear that we have the scientific solutions we need to limit global warming and build resilience to its impacts; the barrier is the lack of political will. Communities are not waiting for policymakers to catch up—they are leading the efforts to build climate resilience and implement local, clean energy projects so they can thrive in the places they love. However, communities do need federal and state resources to invest in the solutions for the results they want to achieve. While we must move quickly to enact just and equitable solutions to the climate crisis, we must move in a principled way and not favor urgency over inclusive, community-led solutions—both are essential for success.

AUTHORS

Astrid Caldas is a Senior Climate Scientist for Community Resilience in the UCS Climate and Energy program. **Lanor Curole** is Tribal Administrator at, and a citizen of, the United Houma Nation in southeast Louisiana. **Juan Declet-Barreto** is a Bilingual Senior Social Scientist for Climate Vulnerability in the UCS Climate and Energy program. **Hilton Kelley** is the Founder and Director of Community In-Power and Development Association Corporation (CIDA) in Port Arthur, Texas. **Eva Olivas** is the Executive Director/CEO of Phoenix Revitalization Corporation in Phoenix, Arizona. **J. Pablo Ortiz-Partida** is a Bilingual Western States Climate Scientist in the UCS Climate and Energy program. **Alicia Race** is a Climate Resilience Policy Advocate in the UCS Climate and Energy program. **Tania Rosario-Méndez** is the Executive Director of Taller Salud in Loíza, Puerto Rico. The **Reverend Leo Woodberry** is Pastor of the Kingdom Living Temple and Executive Director of the New Alpha Community Development Corporation in Florence, South Carolina

ACKNOWLEDGMENTS

This white paper was made possible through the generous support of the Barr Foundation, Farvue Foundation, MacArthur Foundation, Scherman Foundation, and UCS members. The authors would like to thank Adrienne Hollis, PhD and JD, former Senior Climate Justice and Health Scientist at UCS and current Vice President of Environmental Justice, Public Health, and Community Revitalization at the National Wildlife Federation, without whom this work would not be possible.

REFERENCES

- Bergeron, Emily. 2021. "The Historical Roots of Mistrust in Science." *Human Rights* 46 (4). https://www.americanbar.org/groups/crsj/publications/human_rights_magazine_home/the-truth-about-science/the-historical-roots-of-mistrust-in-science/.
- Billings, Stephen B., Emily A. Gallagher, and Lowell Ricketts. 2022. "Let the Rich Be Flooded: The Distribution of Financial Aid and Distress after Hurricane Harvey." *Journal of Financial Economics* 146 (2): 797–819. <https://doi.org/10.1016/j.jfineco.2021.11.006>.
- DRJ (Disaster Researchers for Justice). n.d. "Our Vision." Accessed May 22, 2023. <https://www.disasterresearchersforjustice.com/our-vision>
- Farrell, Justin, Paul Berne Burow, Kathryn McConnell, Jude Bayham, Kyle Whyte, and Gal Koss. 2021. "Effects of Land Dispossession and Forced Migration on Indigenous Peoples in North America." *Science* 374 (6567): eabe4943. <https://doi.org/10.1126/science.abe4943>.
- Fernandez-Bou, Angel Santiago, J. Pablo Ortiz-Partida, Leticia M. Classen-Rodriguez, Chantelise Pells, Kristin B. Dobbin, Vicky Espinoza, José Manuel Rodríguez-Flores, et al. 2021. "3 Challenges, 3 Errors, and 3 Solutions to Integrate Frontline Communities in Climate Change Policy and Research: Lessons From California." *Frontiers in Climate* 3 (September): 717554. <https://doi.org/10.3389/fclim.2021.717554>.
- Kassam, Karim-Aly, Morgan Ruelle, Isabell Haag, Umed Bulbulshoev, Daler Kaziev, Leo Louis, Anna Ullmann, et al. 2021. "Engaging Transformation: Using Seasonal Rounds to Anticipate Climate Change." *Human Ecology* 49: 509–23. <https://doi.org/10.1007/s10745-021-00269-2>.
- Marjanovic, Sophia. 2023. "On May 5, Shining Attention on the Native American Murder Epidemic." The Equation (blog). May 5. <https://blog.ucsusa.org/sophia-marjanovic/on-may-5-shining-attention-on-the-native-american-murder-epidemic/>.
- Morel, Hana, William Megarry, Andrew Potts, Jyoti Hosagrahar, Debra Roberts, Yunus Arikian, Eduardo Brondizio, et al. 2022. *Global Research and Action Agenda on Culture, Heritage and Climate Change*. Charenton-le-Pont & Paris, France: ICOMOS & ICSM CHC. <https://openarchive.icomos.org/id/eprint/2716/1/ICSM%20CHC-Global.pdf>.
- Multi-Hazard Mitigation Council. 2019. Natural Hazard Mitigation Saves: 2019 Report. Washington, DC: National Institute of Building Sciences. https://www.nibs.org/files/pdfs/NIBS_MMC_MitigationSaves_2019.pdf.
- Nawrotzki, Raphael J., Jack DeWaard, Maryia Bakhtsiyarava, and Jasmine Trang Ha. 2017. "Climate Shocks and Rural-Urban Migration in Mexico: Exploring Nonlinearities and Thresholds." *Climatic Change* 140: 243–58. <https://doi.org/10.1007/s10584-016-1849-0>.
- Nelson, Robin. 2019. "Racism in Science: The Taint That Lingers." *Nature* 570 (7762): 440–41. <https://doi.org/10.1038/d41586-019-01968-z>.
- Reinke, Amanda J., and Erin R. Eldridge. 2020. "Navigating the 'Bureaucratic Beast' in North Carolina Hurricane Recovery." *Human Organization* 79 (2): 107–16. <https://meridian.allenpress.com/human-organization/article-abstract/79/2/107/446024/Navigating-the-Bureaucratic-Beast-in-North>.
- Rodriguez-Díaz, Carlos E., and Charlotte Lewellen-Williams. 2020. "Race and Racism as Structural Determinants for Emergency and Recovery Response in the Aftermath of Hurricanes Irma and Maria in Puerto Rico." *Health Equity* 4 (1): 232–38. <https://doi.org/10.1089/heq.2019.0103>.
- Sen, Amartya. 1981. "Poverty and Famines: An Essay on Entitlement and Deprivation." Oxford: Oxford University Press.

- Shi, Linda, and Susanne Moser. 2021. "Transformative Climate Adaptation in the United States: Trends and Prospects." *Science* 372 (6549): eabc8054. <https://doi.org/10.1126/science.abc8054>.
- Tollefson, Jeff. 2022. "Climate Change Is Hitting the Planet Faster than Scientists Originally Thought." *Nature*. February 28, 2022. <https://doi.org/10.1038/d41586-022-00585-7>.
- UCS (Union of Concerned Scientists). n.d. "Working to Advance Racial Equity." Accessed May 9, 2023. <https://www.ucsusa.org/about/racial-equity>.
- White House. 2022. "Justice40 Initiative: A Whole-of-Government Initiative." <https://www.whitehouse.gov/environmentaljustice/justice40/>.
- Willison, Charley E, Phillip M Singer, Melissa S Creary, and Scott L. Greer. 2019. "Quantifying Inequities in US Federal Response to Hurricane Disaster in Texas and Florida Compared with Puerto Rico." *BMJ Global Health* 4 (1): e001191. <https://doi.org/10.1136/bmjgh-2018-001191>.