

November 19, 2025 | By Rachel Jacobson and Mikaela Tajo¹

States Should Use Funding Available Pre- and Post-Disaster to Build Long-Term Resilience to Climate Change

Executive Summary

States can make climate change-fueled disasters less damaging, saving lives and dollars, by using federal hazard mitigation funding in combination with policies to consider future climate conditions in designing and implementing projects using that funding. Without sustained hazard mitigation investments guided by climate change-focused policies, states risk falling into a costly cycle of responding to more and more damaging disasters, with deeper, longer-lasting impacts on budgets and lives.

While federal disaster funding for rebuilding and harm mitigation often doesn't require states to consider how future disasters could affect people, communities, and property, states can tap important federal resources and use them to mitigate future risk. States must apply for most post-disaster hazard mitigation funding and should have specific policies in place to make the best use of the federal funding they receive:

What Can States Do?

- Foster cross-agency coordination on hazard mitigation and climate adaptation
- Require consideration of future risk in hazard mitigation investments
- Direct hazard mitigation funding where the negative effects of climate change-fueled disasters fall hardest

- **States should foster cross-agency coordination on hazard mitigation and climate adaptation by:**

- Establishing a resilience office to provide leadership and policy direction, data and analysis capacity, and monitoring of outcomes.
- Creating a statewide climate adaptation plan to establish a shared vision, goals, objectives, and project pipelines.
- Setting up working groups or commissions to support communication and foster collaborative projects.

- **States should require consideration of future risk in hazard mitigation investments** by:
 - Mandating that infrastructure projects requiring state approval use future climate projections in decision-making.
 - Providing support to local governments so that land use policies, zoning policies, and building codes and standards reflect projections about future conditions under a changing climate.
- **States should direct hazard mitigation funding where the negative effects of climate change-fueled disasters fall hardest** – that is, to communities of color (particularly Black, Latine, and American Indian and Alaska Native communities) and low-income communities – by:
 - Setting policies directing a specific percentage of funds to these communities.
 - Requiring a certain proportion of investment benefits to accrue to them.
 - Establishing requirements for meaningful participation of community members in investment decisions.

Table of Contents

Growing Disaster Costs Highlight Need to Adapt to Climate Risks	2
Federal Hazard Mitigation Funding Enables Critical Safety Investments	5
Post-Disaster Hazard Mitigation Programs	5
Pre-Disaster Hazard Mitigation Programs	7
Congressionally Directed Spending	8
How States Can Best Use Federal Funding for Climate Change Adaptation	11
Cross-Agency Coordination	11
State Policies Mandating Consideration of Future Climate Risk in Rebuilding	12
State Policies Directing Money to Where It’s Most Needed	12

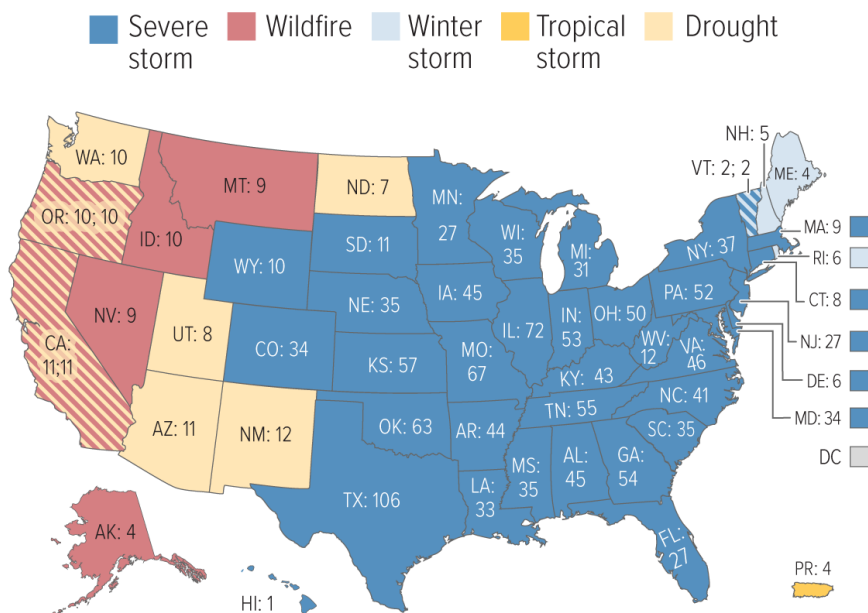
Growing Disaster Costs Highlight Need to Adapt to Climate Risks

Climate change, which is causing hazards such as storms, wildfires, droughts, and floods to become more frequent and severe, is the leading contributor to rising disaster costs across the country.² Between 2008 and 2024, the United States experienced 267 climate-related disaster events each causing at least \$1 billion in damage – an average of 15 per year. (See Figure 1.³) Since the 2010s, the frequency of billion-dollar disasters has increased, from about 13 events per year in the 2010s to 27 events in 2024.⁴

FIGURE 1

Billion-Dollar Disasters Affect All Parts of U.S.

Number and type of most frequent climate-related disasters causing at least \$1 billion in damage, 2008-2024



Key Terms

Climate Change Adaptation: The process of adjustment to the actual or expected climate and its effects in order to moderate harm or exploit beneficial opportunities.

Climate Resilience: The capacity of an individual, group, or system to prevent, withstand, respond to, and recover from a climate-related disruption.^a

Federal Emergency Management Agency (FEMA): An agency of the Department of Homeland Security responsible for building, sustaining, and improving the nation's capability to prepare for, protect against, respond to, recover from, and mitigate hazards and disasters.

Hazard Mitigation: Any sustained action to reduce or eliminate long-term risk to people and property from natural hazards and their effects.

Hazard Mitigation Assistance (HMA): A collection of FEMA grant programs designed to reduce or eliminate long-term risk to people and property from natural hazards. HMA includes programs such as the Hazard Mitigation Grant Program (HMGP), HMGP Post Fire, Building Resilient Infrastructure and Communities (BRIC), and Flood Mitigation Assistance (FMA).

Individual Assistance (IA): A suite of FEMA programs that provide financial help and direct services to individuals and households following a disaster. Programs include the Individuals and Households Program (IHP), Crisis Counseling, Disaster Unemployment Assistance, Disaster Legal Services, and Disaster Case Management.

Pre-disaster funding: Federal funding provided before a disaster occurs to help communities plan and implement cost-effective hazard mitigation measures.

Post-disaster funding: Federal funding made available after a disaster to support recovery and hazard mitigation. This includes programs like Public Assistance (PA), IA, and HMA.

Public Assistance (PA): A FEMA program that provides aid to state, tribal, territorial, and local governments, and certain nonprofits to respond to and recover from major disasters. It includes "emergency work" (e.g., debris removal and emergency protective measures) and "permanent work" (e.g., infrastructure repair and rebuilding).

Presidential Major Disaster Declaration: A formal declaration by the President under the Stafford Act that a major disaster has occurred, enabling the release of federal aid. It is requested by a state governor or tribal chief executive and must demonstrate that the disaster exceeds local and state capabilities. This declaration unlocks a broad range of federal assistance, including PA, IA, and HMA.

^a "Climate change adaptation" and "climate resilience" are often used interchangeably. They are related, yet distinct, concepts. Climate change adaptation refers to a process or a set of actions, while climate resilience often refers to a trait or an outcome. For the purposes of this paper, we use "climate resilience-building" synonymously with "climate change adaptation" and "adapting to climate change." See discussion of these issues in Susanne C. Moser et al., "The turbulent world of resilience: interpretations and themes for transdisciplinary dialogue," *Climatic Change*, Vol. 153, January 2019, <https://doi.org/10.1007/s10584-018-2358-0>.

Federal Hazard Mitigation Funding Enables Critical Safety Investments

The Stafford Act of 1988 mandates that the federal government help cover disaster response and recovery costs that state and local governments are unable to meet. The majority of Stafford Act funding is for immediate relief and recovery efforts.⁷ It includes *Public Assistance to states* for things like debris removal and emergency building repairs and *Individual Assistance to individuals* for things like housing and counseling. This funding is critical for rebuilding lives and livelihoods post-disaster, but it is not designed to help communities reduce the risk of future disasters and adapt to climate change.

However, the Stafford Act and other mechanisms also enable support to states for “hazard mitigation” – that is, actions taken to reduce the risk that a hazard such as flood, fire, or extreme storm poses to lives, livelihoods, and property in a given place *over the long term*. When hazard mitigation efforts incorporate risk assessments and vulnerability analyses that account for projections of future climate conditions, they can constitute effective climate change adaptation.

Federal hazard mitigation funding is a significant share of the federal funding available to help states adapt and build resilience to climate impacts. States⁸ rely on these funds to make cost-saving, life-preserving upgrades to buildings, roads, and critical infrastructure, with projects reducing future disaster response and recovery costs by as much as \$13 for every \$1 invested.⁹ With this funding, states can simultaneously help achieve hazard mitigation *and climate change adaptation* needs, but only if they consider future climate conditions in designing and implementing the projects. For example, rather than simply rebuild a structure in the same place and to the same standards following a major flood, a state could use information about future flood risk to understand how much to elevate that structure or determine that it needs to be moved.

The federal government administers two types of hazard mitigation funding through FEMA and other agencies: *post-disaster* funding, which is available only in the wake of a Presidential Major Disaster Declaration, and *pre-disaster* funding, which is distributed on a competitive basis irrespective of a current disaster declaration.¹⁰

Post-Disaster Hazard Mitigation Programs

This funding is distributed based on an assessment of the damage the disaster has caused and the estimated project costs for needed rebuilding.

- **FEMA Public Assistance (PA):** State governments request PA as part of their Presidential Major Disaster Declaration request. For certain PA-funded projects, known as “permanent” projects, states can work with FEMA to incorporate hazard mitigation measures into the project.¹¹ These projects must be completed within 18 months of the disaster. Funds can be used to repair and rebuild public infrastructure such as roads, public buildings, and water systems.¹²

For example, the city of Mexico Beach, Florida used \$2.7 million in PA funds to implement climate resilience and environmental improvement projects that better protect the community against future flooding and created recreational amenities with multiple social, environmental, and economic benefits.¹³

- **FEMA Hazard Mitigation Grant Program (HMGP):** State governments request HMGP funds as part of their Presidential Major Disaster Declaration request.¹⁴ If the funding is approved, local governments can then apply as sub-applicants for funding to the state applicant based on state-identified priorities.¹⁵ HMGP funds can be used for a variety of hazard mitigation project types, including creating and updating hazard mitigation plans, purchasing property, upgrading assets, and improving environmental conditions.

For example, HMGP funds were used to install hurricane-resistant retrofits at Nicklaus Children's Hospital in Miami. With these retrofits, the hospital was able to shelter patients, employees, and families through several Florida hurricanes, including Frances, Jeanne, Katrina, and Wilma.¹⁶

- **HUD Community Development Block Grant – Disaster Response (CDBG-DR):** This is a significant source of post-disaster funding, with high potential to be used for hazard mitigation. CDBG-DR provides flexible grants to help state governments address unmet recovery needs from major disasters over a longer period of time than FEMA's IA and PA. Funding for the program comes through individual supplemental appropriations Congress approves following a disaster. Eligible uses of CDBG-DR funds include a range of housing, infrastructure, and economic development activities; 70 percent of the funds must be used to benefit low-and-moderate income areas.

In 2018, Congress appropriated \$12 billion of CDBG-DR funds specifically for mitigation activities (CDBG-Mit) for qualifying disasters in 2015, 2016, and 2017. CDBG-Mit provided funding for strategic, long-range activities to reduce the risk of future disasters. In Florida, for example, regional planning councils used a \$1.5 million CDBG-Mit grant to develop an inventory of priority mitigation projects and create a model to show the impacts of extreme rainfall flooding.¹⁷

Beginning in 2021, CDBG-DR allocations included a mandatory 15 percent set-aside for mitigation activities related to any future disasters. CDBG-DR funds can also be used to help state governments meet FEMA cost-share requirements.

- **Other supplemental appropriations:** Beyond FEMA, other federal agencies, including the Economic Development Administration, Environmental Protection Agency, and U.S. Geological Survey, commonly receive supplemental congressional appropriations following a disaster. Those funds may be used for agency activities (for example, to improve flood monitoring) or distributed to the disaster-affected states for needed activities related to specific impacts (for example, to repair drinking water infrastructure).

Pre-Disaster Hazard Mitigation Programs

This funding is distributed on a competitive basis. Though available before a disaster, it is still generally based on the experience of past disasters rather than the threat of future ones.

- **FEMA Building Resilience Infrastructure and Communities (BRIC):** BRIC provides funds to states to conduct long-term hazard mitigation projects. The President can set aside up to 6 percent of the total amount of federal funds authorized through disaster declarations in that year for BRIC, rather than rely solely on congressional appropriations. Congress can also appropriate additional funds for BRIC, as it did in the 2021 Infrastructure Investment and Jobs Act.¹⁸ BRIC funding is available only in jurisdictions that have received a disaster declaration in the past seven years.¹⁹

BRIC funds can be used for similar project types as HMGP, along with additional capacity-building activities such as project scoping, partnership development, and non-financial technical assistance.²⁰ For example, in 2023 BRIC selected five California projects to reduce harm from wildfires, such as by retrofitting homes to reduce the risk that wildfires destroy them.²¹ The Administration attempted to end BRIC in April 2025; the program is currently paused, as 20 states have sued FEMA for cancelling awarded grants and litigation is ongoing.

- **FEMA Flood Mitigation Assistance (FMA):** FMA provides funds to states, territories, federally recognized tribes, and local governments to mitigate hazards to structures insured under the National Flood Insurance Program (NFIP). It receives an annual appropriation from Congress and is not dependent on disaster declarations.

FMA funds can be used to elevate, flood-proof, destroy, purchase, or relocate NFIP-insured property and for some local flood mitigation projects with direct benefit to NFIP-insured properties. For example, in 2024 FMA announced approval of funding to elevate 11 homes to protect them from flooding in North Carolina.²²

- **FEMA Safeguarding Tomorrow Revolving Loan Fund (RLF):** Established through the Safeguarding Tomorrow through Ongoing Risk Mitigation (STORM) Act of 2021, these funds rely on yearly congressional appropriations and are not dependent on disaster declarations. RLF funds are awarded to states on a competitive basis and can be used only to capitalize a revolving loan fund program. They require certain conditions for loans made through the program and must go toward projects that mitigate hazards that FEMA deems “catastrophic,” including storm surge, flooding, earthquakes, and wildfires.

Use of RLF funds can count toward the non-federal cost-share requirement for another FEMA grant. For example, Virginia’s 2024 RFL Intended Use plan included using the RLF loan to meet the cost share for a BRIC grant.²³

- **Hazard mitigation and climate resilience funding from other agencies:** A number of other agencies, such as the National Oceanic and Atmospheric Administration, Environmental

Protection Agency (EPA), and Department of Energy, administer funding programs designed to – or with the potential to – help state governments adapt to climate change.

Congressionally Directed Spending

One additional funding source is available for hazard mitigation projects: congressionally directed spending for the Pre-Disaster Mitigation program. This funding is directed (earmarked) by Congress for specific local projects; it is not a consistently funded program providing grant funding that states can apply for. However, it can be significant: it provided over \$190 million to 110 projects in fiscal year 2024.²⁴

The Evolution of Hazard Mitigation Funding

Since enactment of the Stafford Act in 1988, Congress has passed numerous measures affecting the amounts and allowable uses of hazard mitigation funding – often in response to significant problems experienced with FEMA programs in the wake of landmark disasters, such as Hurricane Andrew in 1992 and Superstorm Sandy in 2012. This timeline summarizes the major federal changes.

 - Indicates that hurricanes were catalytic for legislative changes in that year

1988	Stafford Act	• Gives the President authority to provide financial assistance to states for pre-disaster hazard mitigation planning • Establishes requirements for state and tribal hazard mitigation plans • Establishes the PA program
 1992	Community Development Block Grant-Disaster Recovery (CDBG-DR)	• HUD begins awarding post-disaster CDBG funds in the form of a supplemental program, CDBG-DR, in the wake of Hurricane Andrew
1994	Flood Insurance Reform Act	• Creates the Flood Mitigation Assistance program for flood risk mitigation activities on structures insured by the National Flood Insurance Program
 2000	Disaster Mitigation Act	• Amends the Stafford Act to create the Pre-Disaster Mitigation program (PDM), to provide technical and financial assistance to states, tribes, and local governments for hazard mitigation projects prior to disasters
 2013	Sandy Recovery Improvement Act (SRIA)	• Enables tribes to request presidential disaster declarations separately from states • Makes several administrative changes to PA and HMGP designed to reduce burden on applicants
2018	Disaster Recovery Reform Act (DRRA)	• Creates the BRIC program, replacing the PDM program • Amends the Stafford Act to specify that PA project costs should be based on projects' conformity with the most up-to-date hazard-resistant building codes, standards, and measures to make replacement structures resilient to future hazards • Allows up to 5 percent of the total HMGP grant funds to be used for activities that strengthen the use of building codes and standards

2021

CDBG-Mit appropriations

- Congress appropriates \$12 billion in CDBG funding for strategic, long-range activities that reduce the risks from future disasters in places affected by qualifying disasters that occurred in 2015-2017

Safeguarding Tomorrow through Ongoing Risk Mitigation (STORM) Act

- Creates the Safeguarding Tomorrow Revolving Loan Fund to provide capitalization grants for revolving loan funds administered by states, tribes, and territories

Disaster Relief Supplemental Appropriations Act

- Institutes mandated 15 percent set-aside for mitigation activities for CDBG appropriations

Infrastructure Investment and Jobs Act

- Creates several new climate change adaptation funding programs such as Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) and Community Wildfire Defense Grants.
- Provides an unprecedented \$1 billion for BRIC for 2021-2026 and \$3.5 billion for FMA, as well as unprecedented appropriations for other existing climate change adaptation funding programs such as the Weatherization Assistance Program

2022

Inflation Reduction Act

- Creates several new climate change adaptation funding programs such as Environmental and Climate Justice Block Grants and Climate Resilience Regional Challenge
- Provides significant appropriations to existing climate change adaptation funding programs such as the Tribal Climate Resilience Program

Case Study: Hurricane Helene

Several different forms of federal post-disaster funding can be used to help households recover from the disaster and for longer-term rebuilding. Those various pots of funding, combined with hazard mitigation funding, have strong potential to be used to build climate resilience. Hurricane Helene, a category 4 hurricane that reached North Carolina on September 27, 2024, provides an example.

Helene brought historic rainfall, flooding, landslides, and other impacts that led to the loss of over 100 lives, destroyed thousands of homes, and caused direct damages of \$44.4 billion and an additional \$9.4 billion in indirect or induced damages, which include lost economic activity and revenue and additional operating costs for social services and workforce development programs.

Following Hurricane Helene, North Carolina was awarded response and recovery funding from FEMA consisting of Individual Assistance and Public Assistance for emergency work, as well as PA dollars for permanent work, hazard mitigation funding, and CDBG-DR funding. All told, the state was awarded close to \$4.7 billion, of which \$1.61 billion has been disbursed so far;^a funding delays partly reflect pauses in federal funding and the addition of new federal review requirements.^b The state has also appropriated approximately \$2.9 billion in state funds, \$331 million of which is for state matching funds to draw down dollars from these programs.

Of the \$4.7 billion in federal funding, less than 15 percent is governed by federal policies to incentivize or mandate that projects be resilient to future hazards: HMGP funding, the 15 percent mitigation set-aside from the CDBG-DR funding, and PA (permanent) funding. But just over 60 percent of the federal funding – specifically, the remaining CDBG-DR funds and EPA funding – could be used for repairs that make homes^c and water infrastructure, respectively, more climate-resilient, but is not governed by policies mandating or incentivizing this. The remaining 25 percent of the funding is designed for immediate response and recovery needs only.

15%: Governed by policies that increase resilience ^d			60%: Could be used to increase resilience		25%: For immediate response and recovery only	
Hazard Mitigation Grant Program	Public Assistance: Permanent Work	15% that was set aside from CDBG-DR funding	CDBG-DR (NC + Asheville)	EPA (SRF, Septic, Wastewater)	Individual Assistance	Public Assistance: Debris Removal and Emergency

^a This total also includes funding from a handful of other federal agencies, including the EPA, the Federal Highway Administration (FHWA), and the Economic Development Administration, that is not included in the analysis. A more comprehensive breakdown of federal and state funding can be found in the state's "Hurricane Helene Relief and Recovery State Fiscal Report": <https://www.wncrecovery.nc.gov/grow-nc-q4qr-2025/open>.

^b Ila Moore and Margalit Salkin, "NC Gov. Josh Stein pushes for \$13 billion in Helene relief despite federal funding delays," The Chronicle, October 2, 2025, <https://www.dukechronicle.com/article/duke-university-helene-hurricane-federal-relief-aid-delay-western-north-carolina-josh-stein-fema-disaster-thirteen-billion-recovery-20251002>.

^c CDBG-DR can be used for any unmet recovery need, but it is often used for homes because there is little other federal funding for home repairs.

^d Table source: "Hurricane Helene Relief and Recovery Q3 Report", WNC Recovery. Table data is from August 15 2025; EPA Water Programs have been awarded not obligated. Figures have been rounded.

How States Can Best Use Federal Funding for Climate Change Adaptation

States must take specific actions to effectively leverage federal hazard mitigation funding to meet their climate change adaptation needs and ensure that money is invested in communities experiencing the most negative climate impacts with fewest resources to respond: they must *apply* for most post-disaster hazard mitigation funding, and they should *have specific policies in place* to make the best use of the funding they receive.

While 97 percent of state applications for presidential disaster declarations between 2008 and 2025 included a request for PA (permanent) funding, only 71 percent included a request for HMGP funds. One reason may be that hazard mitigation activities can be financially challenging for state and local governments, as applicants must meet a 25 percent cost share. Additionally, delays for HMGP are common, which may discourage jurisdictions from applying for funding.²⁵

As explained below, states also need to have core policies in place to guide effective and equitable use of the funding.²⁶

Cross-Agency Coordination

Hazard mitigation and climate adaptation efforts span the purview of multiple state agencies. Therefore, policy and governance mechanisms for cross-agency coordination are necessary to ensure more integrated projects and more effective outcomes.

At least 13 states have resilience offices, which can provide leadership and policy direction for climate adaptation efforts across agencies; they also can provide data and analysis resources to support effective policy development and monitor implementation outcomes.²⁷ Approximately 20 states have a statewide plan that addresses climate change adaptation, whether on its own or in combination with climate change mitigation or hazard mitigation.²⁸ Adaptation plans create a statewide vision, goals, and objectives as well as a project pipeline to strategically guide policy and investments. Less formal structures such as working groups or commissions can also support cross-agency coordination by establishing shared language and expectations and creating space to develop shared projects and regular updates.

While states are moving forward in establishing these mechanisms, progress has been slow and uneven. In 2024, the American Planning Association created an index for state resilience governance, scoring states from 0-10 on the formality of their structures based on indicators such as the existence of a resilience definition, a resilience office, and the level of interagency involvement. Only one state (West Virginia) received a 10, only eight states scored above 5, and 20 states received a 0.²⁹

State Policies Mandating Consideration of Future Climate Risk in Rebuilding

Multiple policy types – including land use policy, zoning, and building codes and standards – significantly affect the climate resilience of infrastructure that is rebuilt after a disaster. These policies need to both reflect projections about future conditions under a changing climate and to mandate that entities actively use future climate projections in decision-making in order to effectively reduce risk as climate change alters the location, severity, and characteristics of many hazards.³⁰ Projections of future conditions are readily available from international organizations, academic institutions, and federal agencies, but their use in policymaking is not yet widespread.³¹

While jurisdiction over building and land use policies is largely at the local level, states can incentivize or mandate consideration of future climate risk in certain related decisions; they also can provide guidance to local governments.³² For example, New York’s Climate Risk and Resiliency Act requires certain state infrastructure projects and certain projects that require state permits to demonstrate consideration of future physical risk due to climate change.³³ And New Jersey recently proposed a suite of updated regulations (“Resilient Environments and Landscapes”), including several requirements aimed at protecting infrastructure from future sea level rise and storm surge.³⁴

In 2023, FEMA released new administrative guidance governing activities funded by HMGP, BRIC, and FMA; the guidance updated requirements for HMA-funded construction projects, tying them to modern building standards like the International Building Code and International Residential Code. FEMA also released new guidance governing hazard mitigation plan approvals, which required state and local governments to account for climate change and other future conditions in their hazard mitigation plans. Together, these updates pushed applicants to think more seriously about climate risk, and they continue to provide a useful roadmap to more thoughtful rebuilding and hazard mitigation efforts. Unfortunately, the documents were revised in the early months of the second Trump Administration, with explicit references to climate change eliminated and “future conditions” removed as a required planning element.

These rollbacks, along with the Trump Administration’s rescission of the Federal Flood Risk Management Standard in early 2025,³⁵ make *state* policies requiring consideration of future climate risk – and guidance on what data to use to determine it – all the more important.

State Policies Directing Money to Where It’s Most Needed

The negative effects of climate change-fueled disasters fall hardest on people of color (particularly Black, Latine, and Native American people) and people with low incomes or low wealth due to interlocking discriminatory systems, including racist housing policies, government disinvestment, and economic exploitation.³⁶ As a result, states should direct hazard mitigation funding to communities of color and low-income communities, which experience the greatest negative impacts from climate change and have the fewest resources to respond, often referred to as “environmental justice communities.” While climate justice demands more than equitable investment alone, it is an important component.³⁷

According to Climate XChange, just six states have policies that require a certain percentage of the funds or benefits from state climate and clean energy investments to be directed to environmental justice communities, and only some of those policies apply to a broad swath of climate and energy funds, as opposed to funds from a specific program or set of programs.³⁸ The Biden Administration made progress on this issue at the federal level through the government-wide Justice40 policy, but that policy was rolled back by the Trump Administration. However, states can and should prioritize investments in places with the greatest need irrespective of federal inaction.

¹ The authors wish to thank Alex Campbell of the North Carolina Budget and Tax Center and Shannon Burke for their expert review of this report.

² Disaster risk is rising due to more frequent and severe climate-related hazards as well denser development in coastal areas and the wildland-urban interface. For data illustrating increased hazards and their impacts on disaster costs, see the National Centers for Environmental Information, "Time Series," <https://www.ncei.noaa.gov/access/billions/time-series>.

³ Figure 1 uses data that count the number of times each state is affected by a billion-dollar disaster. Some disasters affect multiple states and are counted in Figure 1 for each state they affect but are considered a single disaster in the 267 national count given in the text. For example, in May 2019 a group of 12 states experienced a series of storms causing an estimated collective \$5.7 billion in damages; this is considered a single national billion-dollar disaster. On the other hand, a single state – Texas – experienced a series of severe hailstorms in February 2022, which caused an estimated \$1.1 billion in damages; this too is counted as a single billion-dollar disaster. National Centers for Environmental Information, "Billion-Dollar Weather and Climate Disasters," 2025, <https://www.ncei.noaa.gov/access/billions/>.

⁴ For many states, the most frequent billion-dollar disasters are "severe storms," a category that includes many different types of storms with several underlying hazards, including tornadoes, high winds, hail, and flooding. Flood damage, which is often accounted for in the total damages reported for a severe storm, is increasingly frequent and costly across the country on its own as well. Flooding disasters caused over \$100 billion in damage from 2008 to 2024.

⁵ Rachel Jacobson, "Five Principles for Advancing Racial, Economic, and Health Justice Through State Climate Policy," CBPP, March 19, 2025, <https://www.cbpp.org/research/climate-change/five-principles-for-advancing-racial-economic-and-health-justice-through>.

⁶ The U.S. Climate Resilience Toolkit outlines five "Steps to Resilience" that can guide state and local governments in climate change adaptation and climate resilience planning and action. See <https://toolkit.climate.gov/overview-steps>.

⁷ Public Assistance includes two categories of work: "emergency" and "permanent." Work undertaken in the emergency category is designed to immediately shore up the safety and accessibility of public infrastructure, not to reduce risk to that infrastructure from future hazards. Work undertaken in the permanent category can aim to reduce risk to future hazards, in response to federal requirements or incentives.

⁸ Federal disaster funding available to states is also available to federally recognized tribes and territories unless otherwise noted. Some funding is available to local governments directly, while some requires applying to the state for an allocation for specific projects.

⁹ National Institute of Building Sciences and Multihazard Mitigation Council, "Natural Hazard Mitigation Saves: 2019 Report," December 2019, <https://www.nibs.org/projects/natural-hazard-mitigation-saves-2019-report>.

¹⁰ The disaster declaration process is initiated when a state or tribal government determines that a disaster exceeds its capacity to respond and formally requests federal assistance. The process culminates in a presidential declaration of an emergency or major disaster, which authorizes the mobilization of federal personnel, resources, and funding to support response and recovery efforts, pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act. See FEMA, "How a Disaster Gets Declared," updated July 29, 2025, <https://www.fema.gov/disaster/how->

declared; and Diane P. Horn, “FEMA Hazard Mitigation: A First Step Toward Climate Adaptation,” Congressional Research Service, Report No. R46989, March 23, 2022, <https://www.congress.gov/crs-product/R46989>.

¹¹ “Permanent” Public Assistance work categories are eligible for incorporating hazard mitigation measures. Those categories are Category C: Roads and bridges, Category D: Water-control facilities, Category E: Public buildings and equipment, Category F: Public utilities, and Category G: Parks, recreational, and other facilities. Prior to the Disaster Recovery and Reform Act (DRRA) of 2018, FEMA funding could not be used to make improvements during the rebuilding process. The DRRA introduced critical reforms that allowed hazard mitigation measures to be introduced in the rebuilding process, even if those measures would increase the project cost, and encouraged or required more protective building codes and standards. The most recent FEMA guidance for implementing these changes can be found in FEMA’s “Hazard Mitigation Program and Policy Guide,” <https://www.fema.gov/grants/mitigation/learn/hazard-mitigation-assistance-guidance>.

¹² FEMA, “Process of Public Assistance Grants,” updated February 21, 2025, <https://www.fema.gov/assistance/public/process>.

¹³ FEMA, “Mitigation Action Portfolio,” August 2020, p. 27, https://www.fema.gov/sites/default/files/2020-08/fema_mitigation-action-portfolio-support-document_08-01-2020_0.pdf.

¹⁴ The Disaster Mitigation Act of 2000 made this possible by amending the Stafford Act to create the Pre-Disaster Mitigation program and provide technical and financial assistance to states and local governments for hazard mitigation implementation.

¹⁵ For each disaster, tribes choose whether to submit their own disaster declaration request and subsequently receive assistance directly from the federal government or to receive assistance as subapplicants on a state request.

¹⁶ See FEMA, “Hazard Mitigation Assistance Program and Policy Guide,” Table 4: Eligible Activities by Program, https://www.fema.gov/sites/default/files/documents/fema_hma-guide-v2.1_2025.pdf.

¹⁷ “Multi-Regional Planning and Mitigation Assessment,” March 23, 2023, <https://storymaps.arcgis.com/stories/18ed7a8e974f4218b0b79950d57e966f>.

¹⁸ Section 1234 of the Disaster Recovery Reform Act of 2018 amended Section 203 of the Stafford Act to create BRIC.

¹⁹ All 50 states are currently eligible to receive BRIC funding because of Covid-19 disaster declarations.

²⁰ See “Hazard Mitigation Assistance Program and Policy Guide,” Table 4, Eligible Activities by Program, https://www.fema.gov/sites/default/files/documents/fema_hma-guide-v2.1_2025.pdf.

²¹ Headwaters Economics, “FEMA’s BRIC Program Continues to Fund Innovative Risk Reduction – but Community Capacity Limits Access,” September 5, 2023, <https://headwaterseconomics.org/natural-hazards/flooding/femas-bric-program-continues-to-fund-innovative-risk-reduction-but-community-capacity-limits-access/>.

²² North Carolina Resilience Exchange, “Funding Database: Flood Mitigation Assistance (FMA),” updated March 1, 2024, <https://www.resilienceexchange.nc.gov/find-funding/funding-database/flood-mitigation-assistance-fma>.

²³ U.S. Government Accountability Office (GAO), “Disaster Resilience: FEMA Should Improve Guidance and Assessment of Its Revolving Loan Fund Program,” GAO-25-107331, February 24, 2025, <https://www.gao.gov/assets/gao-25-107331.pdf>.

²⁴ FEMA, “FY 2024 Pre-Disaster Mitigation Congressionally Directed Spending,” updated May 24, 2024, <https://www.fema.gov/grants/mitigation/learn/pre-disaster/fy24-congressionally-directed-spending>.

²⁵ Natalie Keegan, “FEMA’s Hazard Mitigation Grant Program: Overview and Issues,” Congressional Research Service, Report No. R40471, March 25, 2009, https://www.congress.gov/crs_external_products/R/PDF/R40471/R40471.5.pdf.

²⁶ This section highlights state policy needs specific to equitable and effective use of federal hazard mitigation funding. For a more detailed look at state policy options across a broad swath of disaster risk and resilience needs, see National Conference of State Legislatures (NCSL), “State Policy Considerations for Disaster Risk and Resilience,”

November 2023, <https://www.ncsl.org/environment-and-natural-resources/state-policy-considerations-for-disaster-risk-and-resilience>.

²⁷ National Council of State Legislatures, "State Resilience Offices," updated May 2, 2023, <https://www.ncsl.org/environment-and-natural-resources/state-resilience-offices>.

²⁸ Georgetown Climate Center, "State Adaptation Progress Tracker," <https://www.georgetownclimate.org/adaptation/plans.html>.

²⁹ David Morley, "Planning for State Resilience: A Fifty-State Breakdown," American Planning Association, <https://www.planning.org/research/planning-for-state-resilience-a-fifty-state-breakdown/>. See also Joshua Saks, "State of Chief Resilience Officers: Establishment, Authority, and Governance," Georgetown Climate Center, February 2025, https://www.georgetownclimate.org/files/report/STATE_CHIEF_RESILIENCE_OFFICERS_GCC_FINAL_REPORT.pdf; and NCSL, "State Resilience Offices," updated May 2, 2023, <https://www.ncsl.org/environment-and-natural-resources/state-resilience-offices>.

³⁰ For a discussion of FEMA's role in building and zoning, see Diane P. Horn and Erica A. Lee, "Building Resilience: FEMA's Building Codes Policies and Considerations for Congress," Congressional Research Service, Report No. R47612, October 17, 2023, <https://www.congress.gov/crs-product/R47612>.

³¹ Climate.gov, run by NOAA, hosts a comprehensive and usable set of future climate projections. Although this resource is under threat from the Trump Administration, the data will likely continue to be available to the public; see "Future Climate Projections - Graphs & Maps," <https://www.climate.gov/maps-data/dataset/future-climate-projections-graphs-maps>. Other resources hosting similar data include Climate Central (<https://www.climatecentral.org/>) and Climate.us (<https://www.climate.us/>).

³² William Klein, "The Five Strategic Points of Intervention," American Planning Association, PAS QuickNotes 31, April 1, 2011, <https://www.planning.org/publications/document/9007628>.

³³ New York State Department of Environmental Conservation, "Community Risk and Resiliency Act (CRRRA)," <https://dec.ny.gov/environmental-protection/climate-change/new-york-response/crra>.

³⁴ New Jersey Department of Environmental Protection, "Resilient Environments and Landscapes (REAL) Overview," updated July 21, 2025, <https://dep.nj.gov/njreal/overview/>. It is challenging to convince states and localities to adopt building codes that use *historical* data, let alone future projections. Despite significant efforts over the past several years to encourage hazard-prone jurisdictions to adopt hazard-resistant building codes, FEMA tracking of code adoption across five hazards – damaging wind, hurricane wind, tornado, seismic, and flood – shows that only 21 percent of hazard-prone jurisdictions (covering 38 percent of the population) have done so. See FEMA, "Building Code Adoption Tracking," updated July 15, 2025, <https://www.fema.gov/emergency-managers/risk-management/building-science/bcat>. However, there are some promising local examples from around the country; for example, see Metropolitan Area Planning Council, "Climate Resilient Land Use Strategies," <https://www.mapc.org/resource-library/climate-resilient-land-use-strategies/>. Also, local governments in Southeast Florida have developed common sea-level-rise projections that can be incorporated into zoning or building code requirements. See Southeast Florida Regional Climate Change Compact, "Integrating the Unified Sea Level Rise Projection into Local Plans," <https://southeastfloridacclimatecompact.org/wp-content/uploads/2023/10/integrating-sea-level-projections.pdf>.

³⁵ Joel Scata, "Trump Revokes Federal Flood Protections Again," Natural Resources Defense Council, January 22, 2025, <https://www.nrdc.org/bio/joel-scata/trump-revokes-federal-flood-protections-again>.

³⁶ CBPP, "Advancing Racial, Economic, and Health Justice Through Climate Action," December 12, 2024, <https://www.cbpp.org/research/climate-change/advancing-racial-economic-and-health-justice-through-climate-action>.

³⁷ *Ibid.* In addition to funding programs that address current injustices, climate justice requires acknowledging historical conditions of racism and other forms of discrimination that underlie environmental harm, meaningful participation of affected communities in climate planning and action, repairing harm, and shifting power to affected communities.

³⁸ State Climate Policy Dashboard, "Environmental Justice Community Investment Requirements," updated July 21, 2025, <https://www.climatepolicydashboard.org/policies/climate-governance-equity/ej-community-investment-requirements>. See also Vermont Law School and Partners, "Environmental Justice State by State," <https://ejstatebystate.org/>.