

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

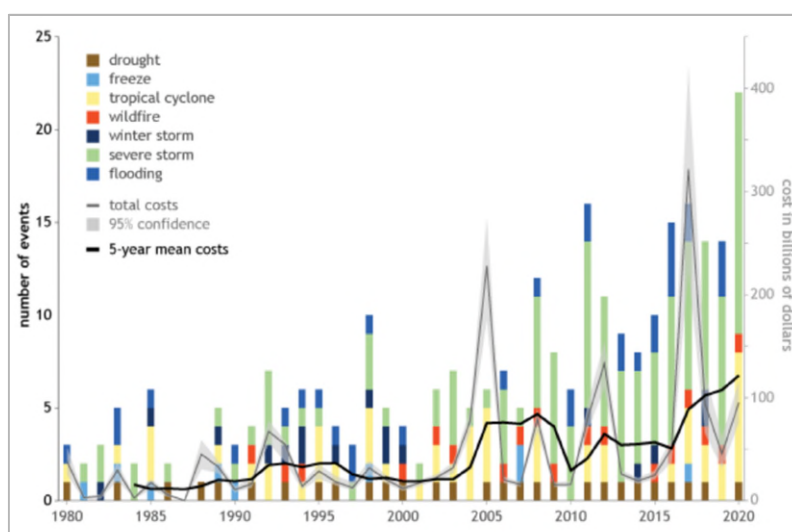
Climate Initiative

Overview

The increasing frequency, intensity, and duration of natural disasters and severe weather events due to climate change present a growing risk to the health and safety of HUD-assisted households, as well as the physical assets financed or subsidized by HUD through a wide range of formula and competitive grants, rental assistance, and mortgage insurance programs.¹ 2020 is the sixth consecutive year (2015-2020) in which 10 or more billion-dollar weather and climate disaster events have impacted the United States (Figure 1).² Calendar Year 2020 set a new annual record of 22 events, causing \$1 billion or more in losses, breaking the previous annual record of 16 events that occurred in 2011 and 2017.³

Communities served by HUD programs, which often have a significant share of low- to moderate-income households and people of color, are often more vulnerable to climate change due to their locations, aging infrastructure, and historic disinvestment. HUD's 2022 President's Budget addresses climate change on two fronts: both in lowering the carbon footprint of the 4.5 million units of public assisted housing (mitigation), and at the same time helping the communities served by HUD programs to better withstand and increase their resilience to future disasters (adaptation).

Figure 1: Billion-dollar Disasters and Costs, 1980-2020



2022 Budget

This Budget requests \$800 million for targeted investments to improve the quality of housing through climate resilience and energy efficiency. As part of the Administration's whole-of-government approach to the climate crisis, the Department is committed to expanding energy-efficient and climate-resilient housing options in public and other HUD-assisted housing. Funds will be used to create a new program, the Green and Resilient Retrofit Program within Multifamily Housing, and fund initiatives that align with or are structured within existing programs: the Rental Assistance Demonstration, Public Housing, Native American Housing, and Choice Neighborhoods. HUD will initiate a robust set of measures to strengthen minimum codes and standards, incentivize investments in energy-efficient, high-performance building, and provide technical assistance to HUD partners to implement proven measures such as utility benchmarking to lower energy use and

¹ See HUD's recently published *Climate Resilience Toolkit*, <https://www.hudexchange.info/news/resource-available-hud-community-resilience-toolkit/>

² NOAA, *2020 U.S. billion-dollar weather and climate disasters in historical context*, Adam B. Smith, Author, January 2021. <https://www.climate.gov/news-features/blogs/beyond-data/2020-us-billion-dollar-weather-and-climate-disasters-historical>

³ NOAA National Centers for Environmental Information (NCEI)(2021). *U.S. Billion-Dollar Weather and Climate Disasters*. www.ncdc.noaa.gov/billions/, DOI: 10.25921/stkw-7w7

resulting carbon emissions in their properties. Investments are proposed in the following program areas:

Program Office	Budget Activity	2022 President's Budget Request for Climate Initiatives
Public and Indian Housing	Public Housing Fund	\$300 million
Public and Indian Housing	Native American Programs	\$100 million
Public and Indian Housing	Choice Neighborhoods	\$50 million
Housing (Multifamily)	Green and Resilient Retrofit	\$250 million
Housing (Multifamily)	Rental Assistance Demonstration	\$100 million
Total		\$800 million

Public and Indian Housing:

- *Public Housing Fund:* \$300 million will be awarded through competitive grants to pay for efficiency upgrades in public housing, including but not limited to replacing major building system components that significantly reduce energy and/or water consumption, and installing energy efficient technologies such as high-performance hot water heaters, Combined Heat and Power, and efficient lighting. Funding will also be available for Public Housing Authorities (PHAs) to develop new strategies and new approaches to the Energy Performance Contracts (EPCs) Program. This will allow PHAs to increase the use of EPCs, investing in deeper green energy and water efficiency measures and further reducing carbon emissions with renewable energy and battery storage systems.

These grants could also be used to fund climate resilience measures such as: relocating equipment vulnerable to flooding from the first floor to a higher level; creating bioswales to capture enough water to prevent flooding; increasing the strength of building envelopes to withstand storms, and other resiliency initiatives. Finally, funding would be available for data collection and analysis to support implementation of utility benchmarking and a better understanding of public housing energy and water consumption.

- *Native American Programs:* \$100 million will be awarded competitively to eligible Indian tribes and Tribally Designated Housing Entities (TDHEs) to fund projects that include energy and water efficiency improvements, with priority given to those that lead to lower energy and water consumption over a longer period. Based on preliminary estimates, the \$100 million will allow Tribes to retrofit approximately 16,600 Indian housing units, which require a moderate amount of work to become more energy efficient.
- *Choice Neighborhoods:* \$50 million will be available to further support energy-efficient housing construction and environmentally-sensitive and resilient design that aligns with the Choice Neighborhoods vision for community improvement projects.

Multifamily Housing:

- *Green and Resilient Retrofit Program (new):* \$250 million to provide funding to owners of assisted multifamily properties to rehabilitate these properties to be more energy efficient, healthier, and more resilient to extreme weather events. This increased investment will improve the stock of affordable housing available to many low- and extremely low-income families, reduce the likelihood of catastrophic damage from future disasters, yield cost savings by reducing energy and water consumption, and also improve indoor air quality by following industry best practices for multifamily properties.

Funding for this initiative will be as follows: \$212.5 million for grants and loans for energy retrofits, green investments, and climate resilience improvements for approximately 15,000 units at approximately 150 project-based rental assisted properties nationwide; \$25 million for utility benchmarking data collection and systems; and \$12.5 million for administrative contract expenses which will enable HUD to quickly scale up the program and realize improvements.

- *Rental Assistance Demonstration (RAD) Program*: \$100 million for PHAs to transition approximately 30,000 public housing units to a more sustainable platform – \$50 million under the Project Based Rental Assistance Program (PBRA) and \$50 million under the Tenant Based Rental Assistance Program (TBRA, administered by the Office of Public and Indian Housing). As part of the conversion to either PBRA or TBRA, properties undergo an extensive review and mitigation/improvement process. This preserves and improves public housing properties and will enable public housing authorities to holistically address critical property needs, environmental hazards, energy inefficiencies, and increase housing choice for residents.

Related Investments:

- *Policy Development and Research*: \$5 million to fund research in housing, climate adaptation and resilience in collaboration with the new Advanced Research Projects Agency for Climate (ARPA-C) at the Department of Energy. The ARPA model of high-risk, accelerated research is uniquely meant to conduct R&D that, if successful, results in transformational technology advancements.
- *Community Development Block Grants (CDBG)*: The 2022 Budget includes a request for \$3.8 billion in CDBG funding. CDBG can be a powerful tool for climate resilience. As a condition for funding, CDBG grantees are required to submit a Consolidated Plan every 3-5 years. In preparing their Consolidated Plans, grantees must consult with agencies whose primary responsibilities include the management of flood prone areas, public land or water resources, and emergency management agencies. The jurisdiction must also describe the vulnerability of housing occupied by low- and moderate-income households to increased natural hazard risks associated with climate change.
- *Lead Hazard Control and Healthy Homes*: The 2022 Budget includes an 11 percent increase in funding for the Office of Lead Hazard Control and Healthy Homes, to \$400 million. By improving the health and safety of homes, these funds will enable recipients to better withstand natural hazards, and there is a renewed focus on better integration of healthy housing and weatherization investments. For the second year, \$5 million will be awarded competitively for initiatives that combine healthy housing funds with Department of Energy (DOE) Weatherization Assistance Program funds.

Lowering Carbon Emissions and Energy Costs

HUD has a portfolio of approximately 4.5 million existing public and assisted housing units and plays a key role in the development and preservation of affordable housing through a wide range of programs. HUD's annual outlays on utilities (energy and water) in this housing stock consume as much as 14 percent of the agency's total budget and, according to an internal HUD analysis, produce an estimated 13.6 million metric tons of carbon emissions.⁴ Improving the energy performance of

⁴ Preliminary internal HUD estimate of carbon emissions, March 2021. Assisted multifamily and Housing Choice Voucher unit counts from *Characteristics of HUD-Assisted Renters and Their Units in 2017* (2020) and public housing unit counts from PIC database were used to estimate total BTU consumption for each subsidy type by Census Region, using per-household annual BTU consumption rates from the Residential Energy Consumption Survey (RECS).

HUD assets will play a significant role in reducing these outlays – allowing for more funds to be spent on housing rather than utilities – and simultaneously lowering carbon emissions across HUD’s public and assisted housing portfolio.

Fiscal Impact and Carbon Footprint. HUD’s most recent (2019) energy report to Congress, *Achieving Utility Savings in HUD-Assisted Housing*, reports annual expenditures of at least \$6.9 billion on utilities on energy and water combined (Table 1). These costs are shared between HUD’s three major rental assistance programs: 36 percent or \$2.49 billion in multifamily assisted housing; 30 percent or \$2.02 billion in public housing; and 34 percent or \$2.35 billion for Housing Choice Voucher utility allowances.⁵

Table 1: Utility Cost Trends 2010-2017 Reporting Years

		2010 Reporting (\$ millions)	2017 Reporting (\$ millions)	Change (%)
<i>Public Housing</i>	Utility Allowances	487	539	10.7%
	PHA-Paid Energy	1,086	873	-19.6%
	PHA-Paid Water and Sewer	464	610	31.5%
	Total Public Housing	2,037	2,022	-0.7%
<i>Assisted Housing</i>	Utility Allowances	806	853	5.8%
	Owner-Paid Energy	1,052	917	-12.8%
	Owner-Paid Water and Sewer	539	722	34.0%
	Total Assisted Housing	2,399	2,493	3.9%
<i>Utility Allowances</i>	Utility Allowances	3,105	3,087	-0.6%
	HUD-paid Utilities Expenses⁶	2,360	2,346	-0.6%
Total HUD-Paid Utility Expenditures		6,796	6,861	1.0%

Utility allowances for tenant-paid utilities account for more than half (55 percent) of annual utility expenditures. Seventy-three percent of all public and assisted households (3.4 million households) receive utility allowances.⁷ Housing Choice Vouchers incur the largest share of HUD expenditures on this item: an estimated \$2.3 billion, followed by assisted multifamily housing (\$853 million) and public housing (\$525 million). While these allowances provide a built-in utility subsidy for HUD-assisted renters, on average, low-income households pay 8.1 percent of their income (and as much as 30 percent in some locations) on energy costs, compared to 2.3 percent for non-low-income households.⁸ Older adults also face disproportional energy burdens.

Though overall utility costs have remained steady since 2010, the past decade has seen a significant shift in utility expenditures from energy to water in both public and assisted housing. While energy expenditures have declined by some 16 percent, water costs have increased dramatically by more

⁵ HUD, Report to Congress, *Achieving Utility Savings in HUD-Assisted Housing*, September 2019.

⁶ Estimated share from a 2012 analysis by the Office of Policy Development and Research of 1.7 million housing vouchers administered by non-Moving to Work (MTW) agencies showing that HUD pays for an estimated 76 percent of utility allowance expenditures through the Housing Choice Voucher program.

⁷ HUD does not have a breakout of water vs. energy costs for Utility Allowances (UAs). We assume, however, that most UAs do not include water costs and are primarily used to pay for energy costs; these are typically included in the rent, rather than being the direct responsibility of the resident.

⁸ ACEEE, *How High Are Household Energy Burdens?* September 2020, www.aceee.org/sites/default/files/pdfs/u2006.pdf. Also See DOE Low-Income Energy Affordability Data (LEAD) Tool, <https://www.energy.gov/eere/slsc/low-income-energy-affordability-data-lead-tool>

than 30 percent in both public and assisted housing. As a result, water expenditures now account for almost 40 percent of PHA-paid utilities in public housing.⁹

A preliminary analysis of HUD's portfolio by building type and region yielded an estimated total carbon footprint of 13.6 million metric tons for public and assisted housing, or the equivalent of over 2.9 million vehicles (Table 2).¹⁰ Cutting energy use in half to meet the President's goal of a 50 percent reduction in building carbon emissions by 2030 will yield the equivalent of removing almost 1.5 million cars from the road.

Table 2: Estimated Carbon Emissions – Public and Assisted Housing

	Units	Annual Consumption (million BTUs)	Annual Metric Tons of Carbon	Equivalent U.S. Vehicles
Assisted Multifamily	1,401,597	49,710,395	2,705,327.59	588,115
Public Housing	975,463	56,983,475	2,846,046.36	618,706
Housing Choice Vouchers	2,169,000	148,239,279	8,067,443.76	1,753,792
TOTAL	4,546,060	254,933,149	13,618,817.70	2,960,613

Key Initiatives. Current and previous energy and water conservation initiatives demonstrate the potential for achieving energy savings and carbon reduction with the right mix of incentives, direct financial support and/or technical assistance. The Multifamily Green Retrofit Program funded by the American Recovery and Reinvestment Act of 2009, for example, invested \$250 million to retrofit 227 HUD-assisted multifamily properties, resulting in cost-effective interventions that produced average energy and water savings of 18 percent and 26 percent respectively.¹¹ Current activities include:

- Energy Performance Contracts in public housing have benefitted about 250,000 units (about a quarter of the current public housing stock) through approximately 315 Energy Performance Contracts (EPCs) approved since the 1980s. In 2016-2017, 28 EPCs were approved covering 64,000 units of public housing, with an estimated savings of \$400 million by PHAs expected over the life of those contracts.¹²
- The Green Mortgage Insurance Premium (Green MIP) provides a strong incentive for FHA multifamily borrowers to adopt one of several approved green building standards. A total of \$38.2 billion in multifamily mortgage insurance for green projects has been endorsed for 1,413 developments with 281,000 units of multifamily housing since the Green MIP was introduced in 2016 (Table 3).¹³ Green MIP borrowers must also commit to benchmarking utilities and achieve a minimum 75 Energy Star score in the Environmental Protection Agency's (EPA) Portfolio Manager.

⁹ PIH Guidance, *Calculation of Utility Expense Level Inflation Factor for CY 2021*, February 19, 2021, https://www.hud.gov/sites/dfiles/PIH/documents/2021_percent20UEL_percent20Calculation.pdf.

¹⁰ See Footnote 4, above.

¹¹ BrightPower and SAHF, *Energy and Water Savings in Multifamily Retrofits: Results from the U.S. Department of Housing and Urban Development's Green Retrofit Program and the Energy Savers Program in Illinois*, June 2014. <https://www.brightpower.com/wp-content/uploads/2016/09/Energy-and-Water-Savings-in-Multifamily-Retrofits.pdf>

¹² HUD Report to Congress, *Achieving Utility Savings in HUD-Assisted Housing*, September 2019.

¹³ HUD Office of Multifamily Housing, *Internal Green MIP Report*, Through 2021, Quarter 2.

Table 3: Multifamily Green MIP Initial Endorsements, by Year

GREEN MIP BY YEAR	Endorsements	Volume (\$)	Units
Year			
2016	33	\$1,164,558,800	7,690
2017	150	\$4,506,882,678	32,621
2018	244	\$6,952,108,098	49,539
2019	221	\$5,960,082,900	43,230
2020	429	\$10,957,587,300	82,568
2021 YTD	336	\$8,724,631,740	65,606
Grand Total	1,413	\$38,265,851,516	281,254

- The Multifamily Better Buildings Challenge is a partnership with the Department of Energy that supports multifamily housing organizations who voluntarily commit to reducing their energy consumption by 20 percent over 10 years, includes approximately 517,000 units of public and assisted housing (accounting for one-fifth of those programs' units), and has facilitated about \$40 of energy savings for every \$1 in Community Compass cross-cutting technical assistance contributed by HUD.
- Some HUD programs, including Choice Neighborhoods, Community Development Block Grant – Disaster Recovery (CDBG-DR), and Community Development Block Grants – Mitigation (CDBG-MIT) have set minimum above-code Energy Star New Home or green building standards for new construction. Other programs, such as the Rental Assistance Demonstration (RAD) encourage adoption of these above-code green building standards. HUD will take steps to strengthen these green building standards, and also update minimum International Energy Code (IECC) and ASHRAE 90.1 standards as required by statute.¹⁴

In addition to HUD's 2022 budget request for \$800 million for energy efficient and resilient retrofits of both public and assisted housing, HUD will initiate a robust set of measures to strengthen minimum codes and standards, incentivize investments in energy-efficient, high-performance building, pilot or demonstrate advanced building electrification or decarbonization, and provide technical assistance to HUD partners to implement proven measures such as utility benchmarking to lower energy use and carbon emissions in their properties.

Increasing Community Resilience to Climate Change

Low- and moderate-income communities served by HUD's formula grant and rental assistance programs are especially and increasingly vulnerable to climate-related threats, including but not limited to extreme weather events, extreme heat, coastal flooding, wildfires and diminished air quality. Several HUD programs play a critical role in helping communities rebuild and implement long-term recovery plans after Presidentially-declared natural disasters. Investments in these areas will bolster the resilience of HUD's inventory of public and assisted housing against these increasingly likely severe weather events.

Key HUD Programs. HUD works with communities to respond to or prepare for natural disasters through two primary programs, CDBG-Disaster Recovery (CDBG-DR) and CDBG-Mitigation (CDBG-MIT).

¹⁴ Section 109, Cranston-Gonzalez National Affordable Housing Act of 1990 (42 U.S.C. 12709) as amended by Section 481 of the Energy Independence and Security Act of 2007.

- Since 1993, Congress has appropriated a total of \$89.8 billion for CDBG-DR, with 137 grants awarded to 64 grantees (34 states and territories and 30 local communities), and \$67 billion in currently active grants. Significant funding has been made available, for example, to support rebuilding after: Hurricane Sandy in New York, New Jersey and Connecticut; Hurricane Katrina on the Gulf Coast; more recently, Hurricane Harvey in Texas, and Hurricanes Irma and Maria in Florida, Puerto Rico, and the U.S. Virgin Islands; and many smaller but significant additional disasters. Funds can be used for a wide variety of purposes.¹⁵
- In 2018, Congress appropriated over \$12 billion specifically for mitigation activities in states and local communities that experienced qualifying disasters in 2015, 2016, and 2017, primarily in the south and southeastern U.S. (these funds were supplemented for a total of \$15.9 billion awarded for mitigation).¹⁶ CDBG-MIT is a unique and significant opportunity for grant recipients to use this assistance in areas impacted by recent disasters to carry out strategic and high-impact activities to mitigate disaster risks and reduce future losses.
- HUD has also supported capital-intensive infrastructure investments through competition, notably the Rebuild By Design and National Disaster Resilience Competitions. Launched in June 2013 in response to the devastation caused by Hurricane Sandy, Rebuild by Design established a new participatory model for designing for resilience that yielded seven winning groundbreaking designs to enhance resilience throughout the Northeast region. The subsequent National Disaster Resilience Competition (NDRC), a collaboration with the Rockefeller Foundation, awarded nearly \$1 billion to eligible communities in a two-phase process to aid communities recovering from prior disasters and improve their ability to withstand and recover more quickly from future natural disasters.¹⁷

Continuing Risks and Vulnerabilities. As a result of these programs, HUD has been able to work with local communities to make significant strides toward addressing these threats. However, the escalating nature of climate risk means that essential but reactive measures are insufficient to address the scale of the problem. The households and communities HUD supports through its programs continue to be vulnerable to impacts from the full range of climate threats.

- Recent analysis and mapping by Climate Central projects that the number of affordable housing units at risk from flooding in coastal areas will triple by 2050.¹⁸ By 2050, virtually every coastal state is expected to have at least some affordable housing exposed to more than one coastal flood risk event per year—up from about half of coastal states in the year 2000. Projections for New York City, Atlantic City, and Boston show that each city could have thousands of units exposed to chronic coastal flooding by 2050.¹⁹
- A report from the Denali Commission found that 144 Native Alaskan Villages (43 percent of all Alaskan communities) experienced infrastructure damage from erosion, flooding, and

¹⁵ HUD, CDBG Disaster Recovery Grant History, 1992-2021.

<https://files.hudexchange.info/resources/documents/CDBG-DR-Grant-History-Report.pdf>

¹⁶ Further Additional Supplemental Appropriations for Disaster Relief Requirements Act, 2018 (Division B, Subdivision 1 of the Bipartisan Budget Act of 2018, Pub. L. 115–123, February 9, 2018. See Federal Register Notice FR–6109–N–02. <https://www.govinfo.gov/content/pkg/FR-2019-08-30/pdf/2019-18607.pdf>

¹⁷ HUD Exchange, *CDBG-DR Overview*, <https://files.hudexchange.info/resources/documents/CDBG-Disaster-Recovery-Overview.pdf>

¹⁸ Climate Central, *Coastal Flood Risk to Affordable Housing Projected to Triple by 2050*, <https://www.climatecentral.org/>

¹⁹ Maya K Buchanan, Scott Kulp, Lara Cushing, Rachel Morello-Frosch, Todd Nedwick, and Benjamin Strauss, *Sea level rise and coastal flooding threaten affordable housing*, December 2020. <https://iopscience.iop.org/article/10.1088/1748-9326/abb266>

permafrost thaw;²⁰ the Alaska Native Tribal Health Consortium cites “limited progress” has been made in supporting protection-in-place, managed retreat, or community relocation efforts in these places.²¹

- A specific threat to HUD programs is the potential vulnerability of HUD’s Mutual Mortgage Insurance (MMI) and General Insurance and Special Risk (GI/SR) Funds to declining property values or increasing foreclosures in vulnerable communities. Though not focused on FHA-insured mortgages, a study released by Johns Hopkins has found that the odds of a foreclosure rise by 3.6 percentage points for a single-family mortgage originated in the first year after a hurricane, and by 4.9 percentage points for a mortgage originated in the third year.²² The researchers warn of a “potential threat to the stability of financial institutions” as global warming leads to more frequent and more severe disasters, forcing more loans to go into default as homeowners cannot or will not make mortgage payments.
- Year-long power outages in Puerto Rico following Hurricane Maria show the need for both hardening the electric grid and developing decentralized resilient power options at the building and community scales to enable local residents to better weather power outages.

Focus on Resilience. Since 2008 Congress has appropriated less than \$16 billion toward mitigation and adaption efforts that help reduce the risk from inevitable future climate events (compared with almost \$51 billion for disaster recovery – Figure 2). These types of anticipatory investments pay for themselves many times over: the National Institute of Building Sciences (NIBS) estimates \$6 in savings for every \$1 spent through federal mitigation grants funded and a benefit-cost ratio (BCR) of 4:1 for investments in model building codes.²³ In addition, effective adaptation can also enhance social and economic well-being, including improving economic opportunity and job creation, health, equity, security, education, social connectivity, and sense of place, as well as safeguarding cultural resources and environmental quality.

Due to their experience delivering effective carbon mitigation programs, both PIH and Housing are positioned to scale decarbonization and resilience efforts with additional funds proposed in this Budget, and the same is true for CPD if Congress provides additional funding for pre-disaster mitigation activities as part of the American Jobs Plan. In addition, the Department will continue to support strong partnerships with the Department of Energy such as the Better Buildings Challenge, as well as better integration of HUD healthy housing and rehabilitation funds with DOE weatherization funding.

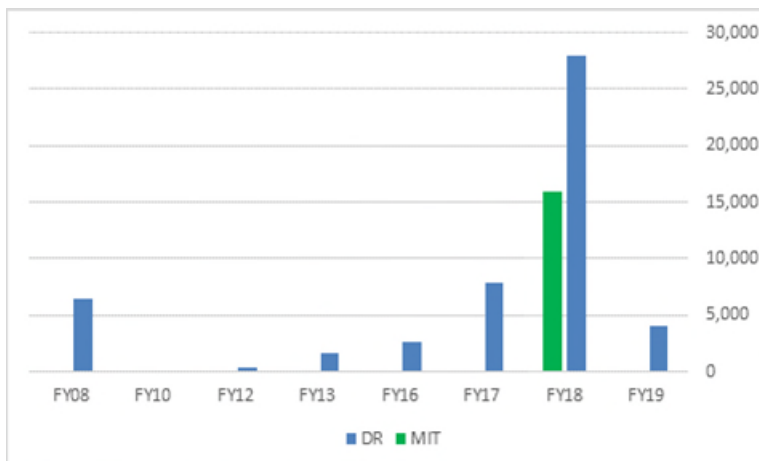
²⁰ Denali Commission, *Statewide Threat Assessment: Identification of Threats from Erosion, Flooding, and Thawing Permafrost in Remote Alaska Communities*, November 2019. <https://www.denali.gov/wp-content/uploads/2019/11/Statewide-Threat-Assessment-Final-Report-20-November-2019.pdf>

²¹ Alaska Native Tribal Health Consortium, State of Alaska, Alaska Center for Climate Assessment and Policy, *Unmet Needs of Environmentally Threatened Alaska Native Villages: Assessment and Recommendations*, 2021.

²² Amine Ouazad, Matthew E. Kahn, *Mortgage Finance and Climate Change: Securitization Dynamics in the Aftermath of Natural Disasters*, http://www.ouazad.com/resources/paper_kahn_ouazad.pdf. January 2021. See also New York Times September 27, 2019, <https://www.nytimes.com/2019/09/27/climate/mortgage-climate-risk.html>

²³ National Institute of Building Sciences, *Natural Hazard Mitigation Saves*, Interim Report, 2017. https://cdn.ymaws.com/www.nibs.org/resource/resmgr/docs/NIBS_MitigationSaves_Interim.pdf

Figure 2: CDBG-DR and CDBG-MIT Appropriations Since 2008
 (\$ Millions)



Coordination and Collaboration

These concurrent investments will be coordinated to a greater extent than in the past, allowing for mitigation and adaptation actions to be implemented simultaneously at the project, community, and regional levels, achieving important synergies and minimizing disruption. Further, this activity should align with related plans for continuity of operations, emergency/disaster response, and evacuation planning. HUD is creating a new department-wide Climate and Environmental Justice Council chaired by Secretary Fudge, along with a staff-level Working Group, to implement Presidential Executive Orders 13990 and 14008 and focus and coordinate HUD’s work internally across program offices in 2022. Closer collaboration with the Federal Emergency Management Agency (FEMA), DOE, EPA, and other agencies supporting this work will help ensure that individuals, buildings, communities, and regions are both more prepared and are able to recover more quickly whenever disasters hit.