



HAZARD MITIGATION ASSISTANCE DIVISION 2019 YEAR IN REVIEW



FEMA

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MISSION OF THE HMA DIVISION

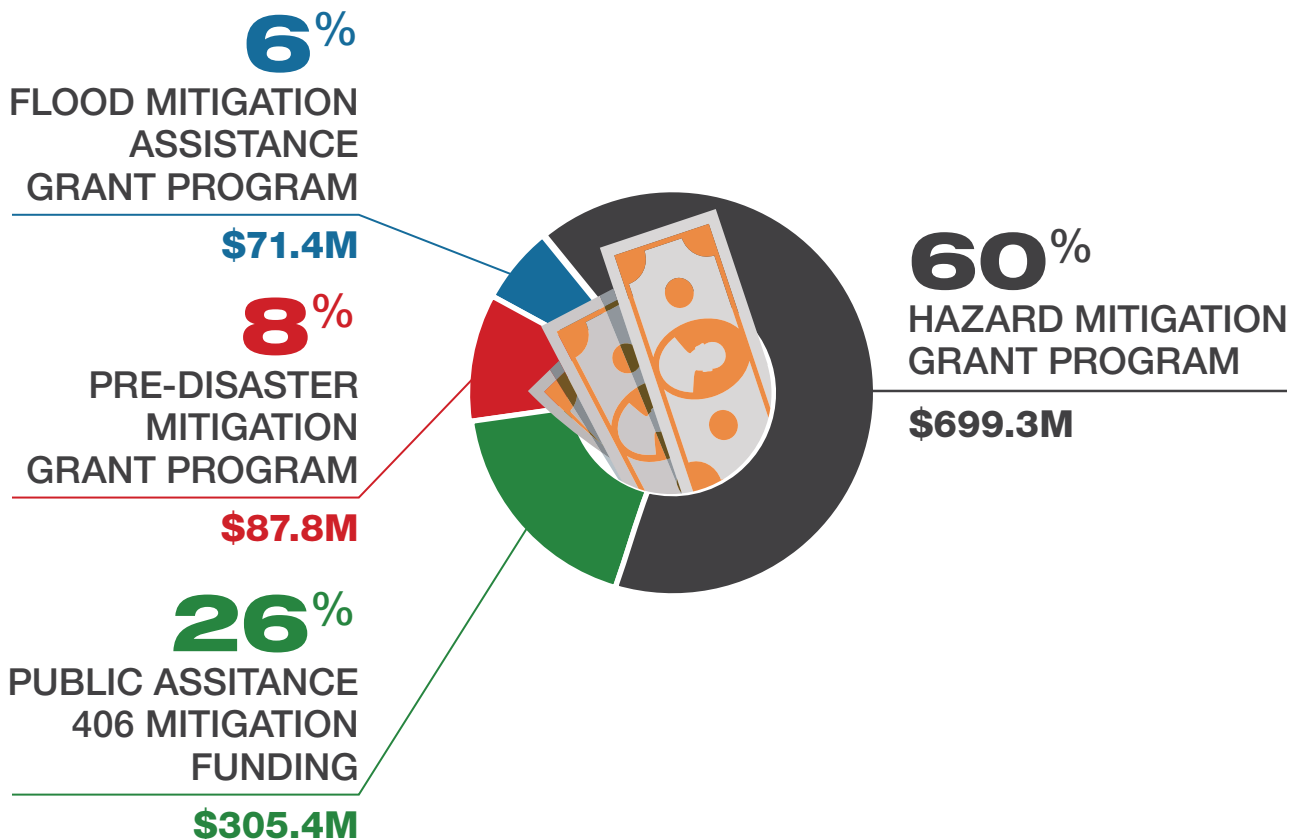
WHO WE ARE

The FEMA Hazard Mitigation Assistance (HMA) Division includes more than 200 dedicated staff across the country who work closely with federal partners and support states, local communities, tribes, and territories (SLTTs) to reduce nationwide vulnerability to disasters and natural hazards. Our **vision** is to be a driver for resilience through partnerships and mitigation investments, and our **mission** is to design, build, and nurture high-performing teams that promote and deliver risk reduction programs.

WHAT WE DO

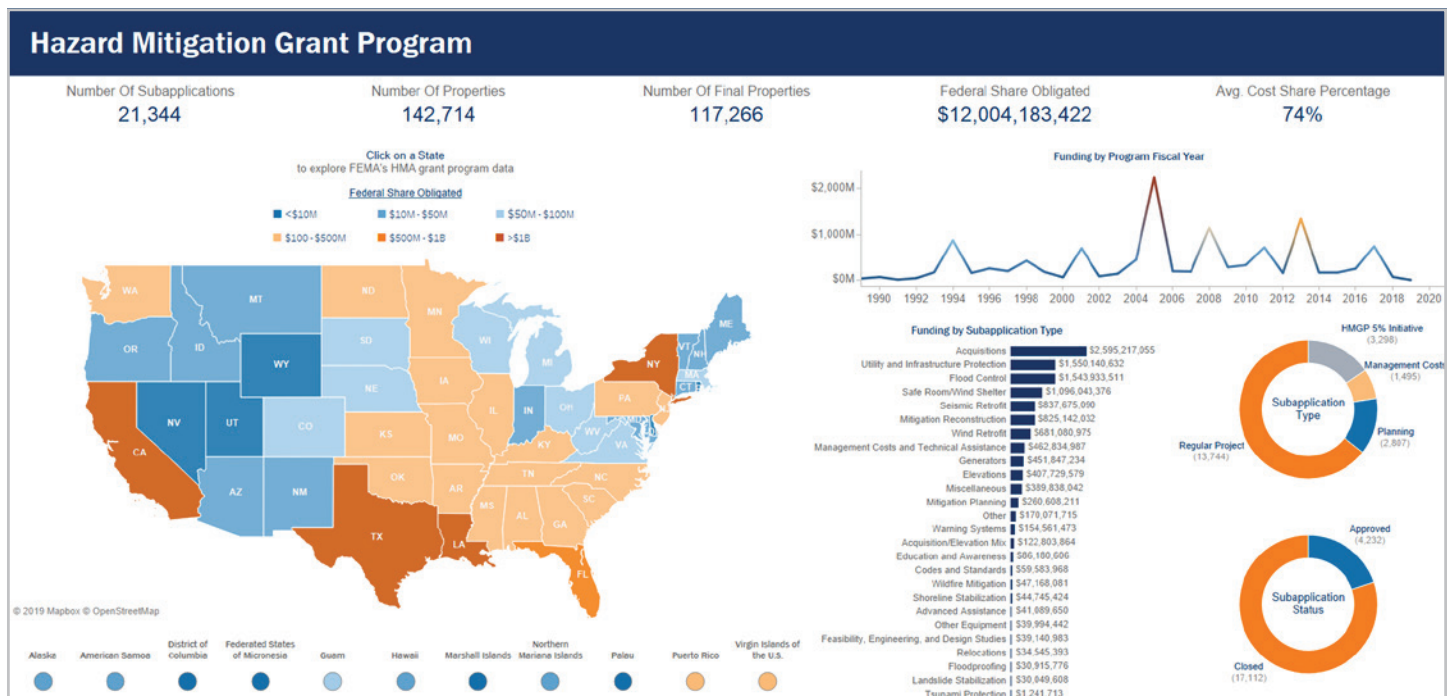
Hazard mitigation is any action taken to reduce or eliminate long-term risk to people and property from natural disasters and hazards. The HMA Division oversees the delivery of four grant programs to provide SLTTs with mitigation funding: the Hazard Mitigation Grant Program (HMGP), Hazard Mitigation Post Fire Grant Program (HMGP Post Fire), Flood Mitigation Assistance Grant Program (FMA), and Pre-Disaster Mitigation Grant Program (PDM). Examples of hazard mitigation projects funded by FEMA HMA grant programs include acquiring repeatedly flooded properties, elevating structures, and building safe rooms. In 2019, HMA approved 1,229 grants in our combined programs, totaling over \$850 million in funding from FEMA. In addition, HMA is working to enhance coordination with FEMA's Public Assistance (PA) Division, which supports communities' recovery from major disasters by providing mitigation funding opportunities to restore and strengthen public infrastructure. All of these funding opportunities are helping to build a more resilient nation.

In FY2019, more than **\$1.16B** in **Hazard Mitigation Assistance** grants and **Public Assistance 406 Mitigation** funds were delivered to states, local communities, tribes, and territories, resulting in mitigation actions that will reduce risk.



FY 2019 data

The **Hazard Mitigation Grant Program (HMGP)** implements long-term hazard mitigation measures after a major disaster declaration.



The **Hazard Mitigation Grant Program Post Fire (HMGP Post Fire)** now provides mitigation assistance using HMGP funds for areas affected by fires that have received assistance under Fire Management Assistance Grant (FMAG) declarations. HMGP Post Fire focuses on substantially reducing the risk of future damage, hardship, loss, or suffering from wildfire but also, in some cases, applies to other natural hazards.

The Disaster Recovery Reform Act of 2018 (DRRA) Section 1204 of the Stafford Act makes HMGP Post Fire a permanent program. HMGP Post Fire was effective on October 5, 2018, applying to FMAG declarations issued on or after that date. It is a non-competitive grant available to affected communities, including tribes. Due to utilization of an annually-established funding “base” and an early open application period, HMGP Post Fire funds are available within weeks of the FMAG declaration. Since a major disaster declaration is not required to access the grant, funding is more easily accessible and mitigation activities can be completed earlier in the disaster cycle.

HMGP Post Fire highlights from FY2019:

Awards
15 awards for nine states

Total Funding
\$7.4 million

Eligible States
California, Nevada, Alaska, New Mexico, Texas, Montana, Utah, Arizona, and Oregon

HMGP Post Fire highlights from FY2020 to date:

Awards
19 awards for five states

Total Funding
\$11 million

Eligible States
Florida, Oklahoma, Arizona, California, and Hawaii



Pictured here are workers in protective gear using heavy equipment to clear area in a forest.

The **Flood Mitigation Assistance Grant Program (FMA)** implements measures to reduce or eliminate the long-term risk of flood damage to structures insurable under the National Flood Insurance Program (NFIP).

Public Assistance (PA) Mitigation provides mitigation funding for eligible disaster-damaged facilities after a major disaster declaration to make the facilities more resilient.

The **Pre-Disaster Mitigation Grant Program (PDM)** provides technical and financial assistance for cost-effective pre-disaster hazard mitigation activities that complement a comprehensive mitigation program and reduce injuries, loss of life, and damage and destruction of property.

Building Resilient Infrastructure and Communities (BRIC) is a new pre-disaster mitigation program administered by FEMA, which FEMA anticipates will replace PDM by the fall of 2020.

To help with the development of BRIC, in 2019 FEMA championed an ambitious stakeholder engagement strategy culminating in more than 70 letters submitted through email and 5,000 comments submitted through an online crowd-sourcing platform, Ideascale, and virtual and in-person listening sessions. These included comments from members of the public, private sector, SLTT partners, and representatives of other federal agencies. The feedback continues to inform the development of the BRIC program.



Flood Mitigation Assistance Grant Program

Number Of Subapplications
2,818

Number Of Properties
7,622

Number Of Final Properties
7,348

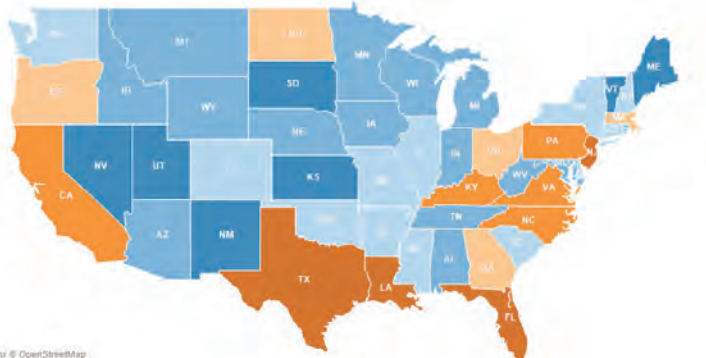
Federal Share Obligated
\$1,271,540,736

Avg. Cost Share Percentage
80%

Click on a State
to explore FEMA's HMA grant program data

Federal Share Obligated

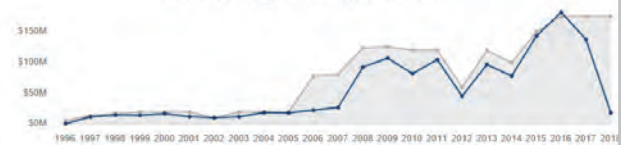
■ <\$1M
 ■ \$1M - \$5M
 ■ \$5M - \$10M
■ \$10 - \$25M
 ■ \$25M - \$50M
 ■ >\$50M



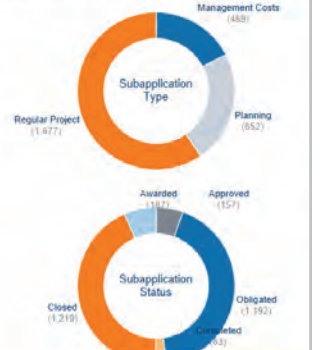
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Alaska District of Columbia Northern Mariana Islands Puerto Rico Virgin Islands of the U.S.

Federal Share Obligated versus Appropriated Funds



Funding by Subapplication Type



Pre-Disaster Mitigation Grant Program

Number Of Subapplications
4,064

Number Of Properties
6,360

Number Of Final Properties
6,351

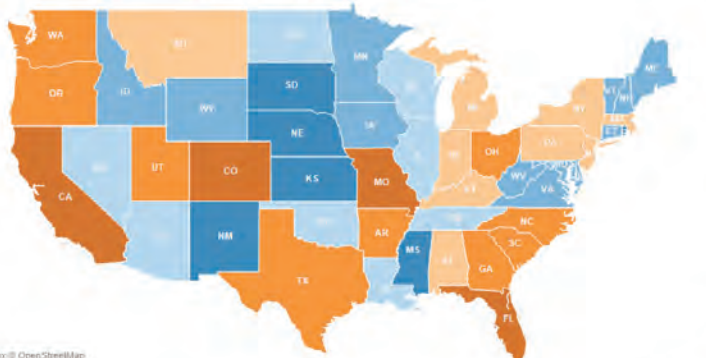
Federal Share Obligated
\$1,041,927,966

Avg. Cost Share Percentage
75%

Click on a State
to explore FEMA's HMA grant program data

Federal Share Obligated

■ <\$5M
 ■ \$5M - \$10M
 ■ \$10M - \$15M
■ \$15 - \$25M
 ■ \$25M - \$50M
 ■ >\$50M



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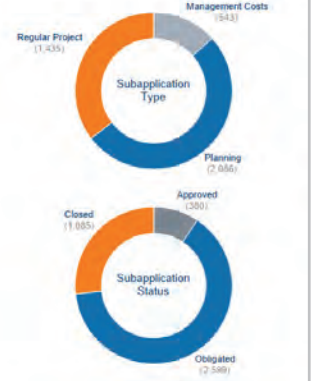
Alaska American Samoa District of Columbia Guam Hawaii Northern Mariana Islands Puerto Rico Virgin Islands of the U.S.

Federal Share Obligated versus Appropriated Funds

Note: Some fiscal years experience carry over funding



Funding by Subapplication Type





HMA PROGRAM HIGHLIGHTS

EXPANSION OF TOOLS, RESOURCES, AND CAPABILITIES

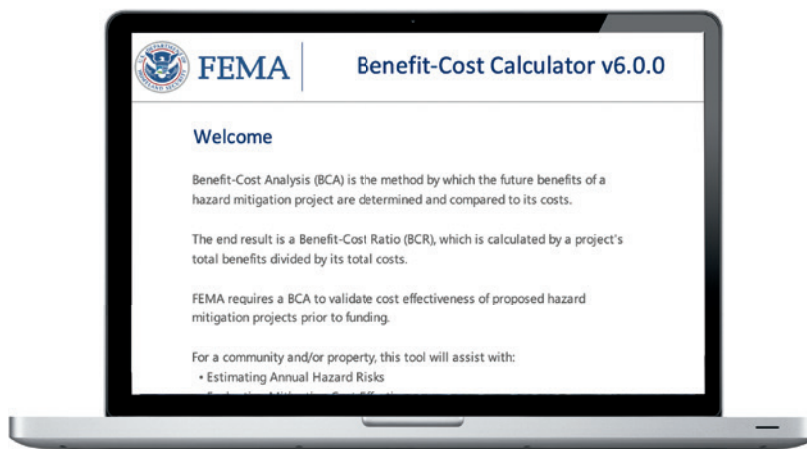
In 2019, HMA worked across FEMA, collaboratively with other federal agencies, and alongside SLTT partners to launch new initiatives, implement innovative policies, develop new program ideas, build cutting-edge tools, and continue to strengthen the nation’s resilience.

HMA ensures the availability, cyber security and sustainment of its systems, manages contracts and acquisition processes, provides analytic support for data requests for stakeholders, and manages training requirements.

Publishing the Benefit-Cost Analysis Toolkit 6.0

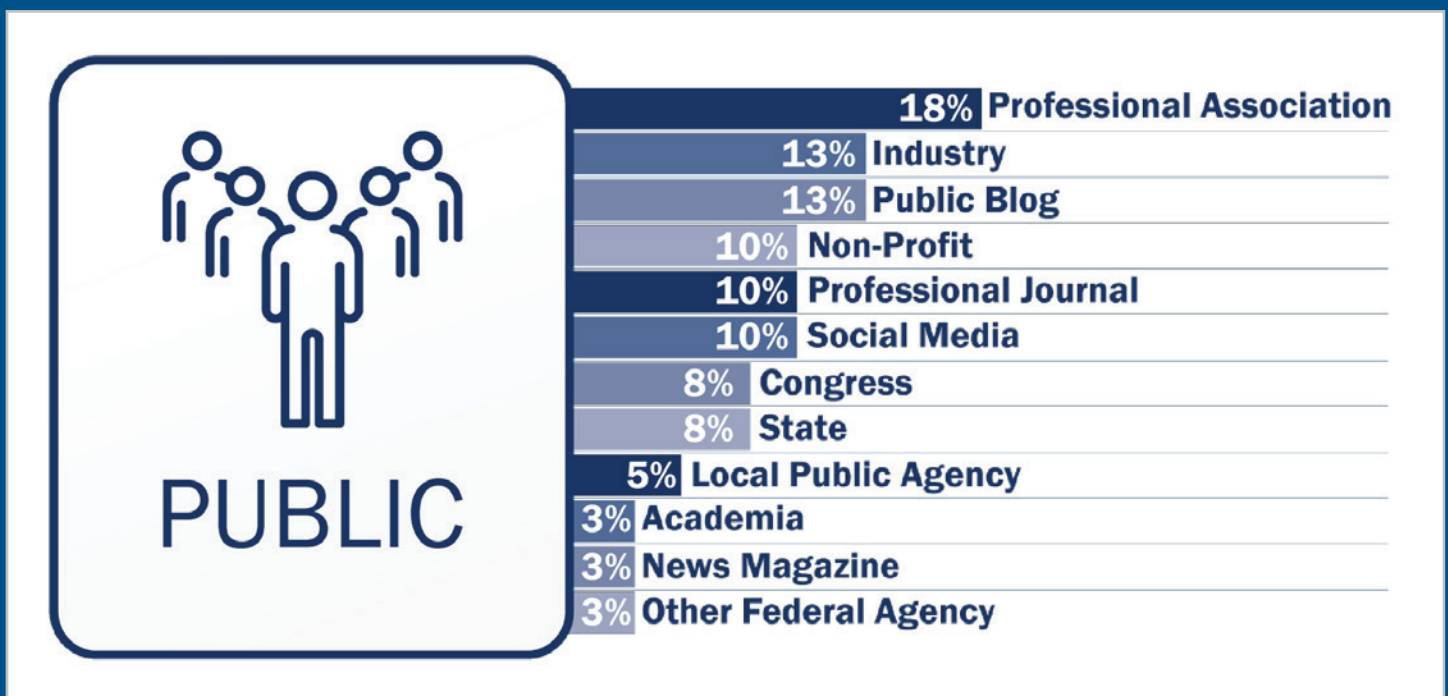
A Benefit-Cost Analysis (BCA) remains foundational to assessing the cost-effectiveness of hazard mitigation projects.

To support stakeholders in their assessment of cost-effective projects and calculation of the BCA, HMA launched a new BCA Toolkit with end-users in mind. Excel-based and compatible with both Microsoft and Macintosh operating systems, the BCA Toolkit 6.0 provides a streamlined user interface and improved user experience for applicants to FEMA’s HMA grant programs. The BCA Toolkit can be found on FEMA’s website here: <https://www.fema.gov/media-library/assets/documents/179903>.



Pictured here is a snapshot of the BCA Toolkit 6.0, which can be accessed on FEMA’s website.

Between October and November 2019, the OpenFEMA datasets were visited approximately 1,000 times by diverse stakeholders, including those listed here.



Providing Data to the Public and Ensuring Compliance

OpenFEMA delivers FEMA data to the public. HMA published new OpenFEMA Data and updates to existing OpenFEMA datasets. These datasets support FEMA's compliance with Foundations for Evidence-Based Policymaking Act (P.L. 115-435) Title II Open Government Data Act.

Community Lifelines Dashboard

Lifelines provide indispensable services to communities and enable continuous operation of critical government functions and business essential to human health, safety, and economic security before, during, and after a disaster. FEMA created Community Lifelines to reframe incident information, understand and communicate incident impacts using plain language, and promote unity of effort across the whole community to prioritize efforts to stabilize the lifelines during incident response.

Using the best available data from FEMA's Enterprise Data Warehouse, HMA has aligned each hazard mitigation grant project to a specific lifeline component based on project type and keywords.

Understanding lifeline functions helps decision-makers focus response efforts to prioritize restoration of the most critical services and infrastructure. While lifelines were developed to support response planning and operations, the concept can be applied across the entire preparedness cycle. Efforts to protect lifelines, prevent and mitigate potential impacts to them, and build back stronger and smarter during recovery will drive overall resilience of the nation, and HMA is strongly supporting FEMA in this effort. The dashboard resides behind the FEMA firewall and is available to all FEMA users.

Developing and Maintaining Grant Application Systems

HMA is maintaining full operational capability of its legacy grant application systems as it continues to support the development and deployment of a new IT system, FEMA Grants Outcomes, or FEMA GO. This system will eventually replace ten grant legacy systems in FEMA, including HMA's grant application systems.

Contributing to an International Community of Practice

HMA's impact stretched beyond the borders of the U.S. in 2019. HMA represented the U.S. Government at an Organisation for Economic Co-operation and Development (OECD) convention in September 2019. HMA's presentation focused on FEMA's methodology for conducting BCA for infrastructure, as well as the effectiveness of disaster risk reduction measures.

The Community Lifelines dashboard illustrates project funding by lifeline and lifeline components.



COMMUNITY INFRASTRUCTURE RESILIENCE (CIR)

HMA created a **Community Infrastructure Resilience (CIR)** branch in 2018 to enhance coordination between FEMA's mitigation funding sources, including its HMA grant programs and PA mitigation funding opportunities. The CIR branch supports resilient rebuilding of community infrastructure through its mission to foster relationships with existing and new stakeholders, and to improve policy, process, and communication.

PA 406 Mitigation Brochure

HMA collaborated with PA to release the first comprehensive overview of PA 406 Mitigation funding opportunities for the public and potential applicants. The FEMA PA 406 Mitigation brochure provides information on PA mitigation funding, eligibility requirements, examples of mitigation projects, and where to go for more guidance. The brochure is available on FEMA.gov and on both the PA and HMA websites, and was featured in the HMA weekly publication *Mitigation Minute* on November 13, 2019. The brochure has been shared with all 10 FEMA regions and is being distributed to staff in field offices.

PA Mitigation Process Updates

This year, HMA and PA held a workshop with stakeholders and identified several key improvements to streamline the PA 406 Mitigation process. The process more efficiently leverages the expertise and capabilities of HMA staff in the field and public costing specialists at the Consolidated Resource Centers to better assist communities in achieving their recovery outcomes. This updated process is in use for all disasters declared after August 15, 2019.

Hazard Mitigation Proposal Development Training

In early 2019, HMA updated the PA 406 Mitigation training to better meet the needs of PA 406 Mitigation specialists around the country. Since the first updated training was given in February 2019, over 350 students have received training about PA 406 Mitigation policy (including eligibility requirements), common mitigation measures across hazard types, and opportunities to review real hazard mitigation proposals. At the end of the course, students write their own hazard mitigation proposals and practice uploading necessary materials to Grants Manager, the online platform that is used to track PA award packages.



The Federal Emergency Management Agency (FEMA) recognizes that after a disaster, the best time to protect a facility from future, similar damage is during the recovery period. Mitigation projects done during the recovery reduce overall cost and construction efforts associated with retrofitting a repaired facility.

If you qualify for repairs through FEMA's Public Assistance (PA) Program (Robert T. Stafford Disaster Relief and Emergency Act, Section 406), you may also be eligible for additional funding to protect your facility.

During the recovery process, FEMA will assist you with assessing damage, developing a Hazard Mitigation Proposal, and evaluating the cost-effectiveness of mitigation projects.

Examples of Mitigation Projects Funded by Public Assistance

- Flood door to provide facility dry floodproofing mitigation
- Heat pump elevated 4 feet above ground to prevent flooding damage
- Steel reinforced concrete and waterproofed flood walls around a building to protect facility from the horizontal pressure of flood water
- Concrete wingwalls around a culvert to prevent road erosion

The FEMA PA 406 Mitigation brochure provides information on FEMA PA mitigation funding, eligibility requirements, examples of mitigation projects, and where to go for more guidance.

The CIR branch training in action: PA 406 Mitigation training was underway in Nebraska on DR-4420-NE.



External Stakeholder Working Group (ESWG) Engagement

The External Stakeholder Working Group (ESWG) is a group of twelve individuals representing SLTTs who are hazard mitigation professionals working to advance mitigation in their communities. The ESWG provides an opportunity for FEMA to increase engagement and transparency with non-federal partners in our grant programs at the state, local, tribal, or territorial levels. The working group provides a venue to open channels of communication between federal staff and stakeholders, gather the perspective and insight into mitigation and/or program issues from the non-federal perspectives, and increase transparency in achieving HMA goals, identifying program priorities, and developing policy.

Members serve two-year terms and commit to participating in four meetings a year. In 2020, the ESWG will include five new members comprised of (2) local/regional representatives, (2) state/territory representatives, and (1) tribal representative.

The ESWG plays a role in planning and supporting the annual HMA workshop hosted each spring that brings together hazard mitigation professionals from across the country to share best practices, solicit feedback from stakeholders, and encourage collaboration. The ESWG also identifies HMA-related topics of interest among states, local communities, tribes, and territories and works to improve the design and delivery of HMA programs and problem-solve areas of interest or concern. In 2019, the ESWG conducted the following activities:

- **HMA Workshop Support** – Reviewed and ranked abstract proposals, designed and delivered a “Mitigation 101” course, and hosted a tribal roundtable discussion.
- **Grants Process Support for Tribes and Local Communities** – Began initial stages of a project to analyze and consolidate existing HMA materials.
- **Tribal Engagement Strategy Implementation** – Finalized an HMA Tribal Engagement Strategy and began rolling out the plan within FEMA.



Tom Hughes, Pennsylvania's Hazard Mitigation Officer and ESWG member, organized site visits to a sinkhole mitigation project in Harrisburg, Pennsylvania and a tour of a flood mitigation project at a baseball stadium in City Island, Pennsylvania. The site visits allowed HMA workshop participants to visit real-world examples of federally-funded mitigation projects.

June 25, 2019. FEMA ESWG members participate in a site visit to the Puye Cliff Dwellings located in Santa Clara Canyon on Santa Clara Pueblo, New Mexico to learn how a small tribe is implementing naturalistic approaches to mitigation to restore cultural land. The canyon has been closed to the public for several years due to damage from wildfires and flooding.



HMGP UPDATES

HMGP Forward

HMGP Forward is an effort that began in early 2019 to evaluate FEMA’s largest hazard mitigation grant program’s performance and determine the changes needed to improve the program moving into the next decade. HMGP Forward is focused on streamlining administrative requirements for smaller disasters, increasing the capability and capacity of FEMA and its partners, and developing performance metrics to better gauge programmatic strengths and weaknesses. This effort will continue throughout 2020.

Improving HMGP Grant Closeout

HMA is also working to better manage HMGP award fundamentals to reduce closeout backlog and noncompliant grants (expired Periods of Performance, Closeout and Liquidation Periods, and expired State Management Cost Periods of Availability). FEMA’s Office of the Chief Financial Officer (OCFO) partnered with Grants Program Directorate (GPD), Office of Response and Recovery (ORR) and the Office of Resiliency to raise awareness of the Grants Oversight and New Efficiency (GONE) Act requirements and take actions to accelerate the closeout of grants. In addition, these internal partners work to establish consistent closeout processes, accurately identify and track period of performance, and develop a reporting tool.

As a result of this effort, FEMA reduced the GONE Act reportable grants by 92 percent, from 809 grants in FY2017 to 61 grants in FY2018. Additionally, the unliquidated balance went down by \$51 million. HMGP GONE Act reportable to Congress grants decreased from 26 grants at the beginning of FY2017 to zero at the end of FY2018, and reduced the unliquidated balance from more than \$7 million to zero dollars; in other words, a 100 percent reduction overall.

Other HMGP improvements during the same time period include:

Expired Periods of Performance



Expired Closeout and Liquidation Periods



Expired FEMA Closeout Periods



FEDERAL INTER-AGENCY COORDINATION



FEMA-Department of Energy (DOE)

In October and November 2019, FEMA partnered with DOE and developed a series of webinars on innovative, energy-specific hazard mitigation projects. The series was primarily aimed at community officials interested in learning about these types of projects, how to leverage federal grant funding available through FEMA’s PDM grant program, and resources that are available through DOE’s State Energy Program.

Webinar 1: “Mitigating Natural Hazard Risks in the Energy Sector: Innovative Projects that Help Build Resilient Communities” focused on how to build resiliency in the energy sector through innovative energy mitigation projects that incorporate energy efficiency, renewable energy and storage, and microgrids. The webinar also showcased ongoing federal and state-funded energy projects, explained how to leverage federal grant funding available through FEMA’s FY2019 PDM grant program, and detailed DOE’s State Energy Program.

Webinar 2: “Demonstrating Value: How to Use Benefit-Cost Analysis to Evaluate Energy Mitigation Projects” focused on FEMA’s BCA program guidelines, methodologies, and tools for valuing energy lifeline projects. While the BCA Toolkit is used for FEMA HMA and PA grant programs, it has a broad range of applications for other federal agencies, states, tribes, and local governments. Participants learned how to use the BCA Toolkit as it applies to energy sector projects to build resilient communities.

To view the webinars, go to <https://www.fema.gov/2019-nofw-webinar-schedule-hazard-mitigation-assistance-grants>





FEMA-Department of Housing and Urban Development (HUD)

FEMA coordinated extensively with HUD including:

- Developing the Community Development Block Grant-Mitigation (CDBG-MIT) Notice of Funding Opportunity (NOFO). This NOFO includes multiple jurisdictions following a series of 2017 disasters, which provided a first-ever CDBG NOFO explicitly for mitigation.
- Providing technical assistance related to building codes and standards, Hazard Mitigation Planning, and HMGP, to include projects and cost-effectiveness.
- Participating in the mid-year HUD Problem Solving Clinic to provide assistance and address questions around Mitigation Planning and HMGP.
- Co-delivering two webinars to align with the HUD-required Mitigation Needs Assessment and FEMA's BCA tool.
- Conducting a Mitigation Needs Assessment for CDBG-MIT. Participants learned the CDBG-MIT requirements for assessing mitigation needs, how the FEMA Community Lifelines framework should be applied to a mitigation needs assessment, and where to get additional information or support in conducting a mitigation needs assessment.
- Demonstrating the new HMA BCA Toolkit. Participants learned the CDBG-MIT requirements for project benefits (including alternate demonstration of benefits); how to download, launch, and input data into FEMA's BCA Toolkit to demonstrate cost-effectiveness of planned mitigation projects; and how to navigate the BCA Toolkit, access resources, and generate and export project reports for inclusion in grant applications.



FEMA-Department of Agriculture (USDA)-Department of Interior (DOI)

HMA collaborated extensively with multiple agencies under the USDA and the DOI on wildfire and post-fire mitigation approaches. This collaboration included wildfire and post-fire risk analysis, hazard vulnerability identification, planning, and strategies to inform mitigation priorities across multi-jurisdictional areas of impact. HMA also conducted extensive outreach and education about available wildfire mitigation grant programs and ways to leverage different resources to enhance and increase wildfire and post-fire hazard mitigation project implementation.

REGION III HIGHLIGHT

Dover, Delaware: 2019 Hazard Mitigation Plan Implementation and Grant Development Workshop

With a new pre-disaster mitigation program on the horizon resulting from Section 1234 of the DRRA, FEMA and the Delaware Emergency Management Agency (DEMA) partnered to deliver a successful one-and-a-half-day Hazard Mitigation Plan Implementation and Grant Development Workshop in Delaware. This hands-on, outcome-oriented workshop was targeted to build the local governments' capacity to develop implementable hazard mitigation plans and robust grant applications. Most notably, this event allowed participants to return to their communities with a scope of work ready for inclusion in an HMA mitigation project grant application. The workshop's strong attendance and engagement, coupled with the development of actionable project scopes of work has spurred Region III and its state partners to deliver additional installments of this event.



Local and state participants discuss mitigation prioritizations and mitigation project ideas.



DISASTER RECOVERY REFORM ACT IMPLEMENTATION UPDATE

The Disaster Recovery Reform Act of 2018 (DRRA) was signed into law in October 2018. These reforms acknowledge the shared responsibility for disaster response and recovery, aim to reduce the complexity of FEMA, and build the nation’s capacity for the next catastrophic event.

The DRRA comprises 56 distinct provisions, many of which require policy or regulatory changes to implement. Of those, HMA has been coordinating, implementing and/or tracking 13 provisions of DRRA that drive risk reduction, build capability for communities, and impact HMA programs and policy. They include:

Section 1204 – Wildfire Prevention

This provision authorizes FEMA to provide HMGP funding to areas that receive an FMAG declaration. Prior to DRRA, HMGP funding was only available following a major disaster declaration. This provision codifies a pilot program that made HMGP available following FMAG declarations.

Implementation:

FEMA issued a final policy that increases and streamlines mitigation assistance (Hazard Mitigation Grant Program Post Fire) in May 2019.



Section 1205 – Additional Activities (Wildfires and Windstorms)

This provision authorizes FEMA to provide assistance under the HMGP and PDM programs for activities related to wildfire and windstorm mitigation. Eligible activities range from reseeded damaged groundcover with native species to installing utility poles that are resilient to extreme winds.

Implementation:

The mitigation activities covered in this provision are currently allowable as part of eligible project types under the HMGP and PDM programs. FEMA released information on how these activities can be incorporated into eligible mitigation project applications, as well as a crosswalk to document the HMA program guidance sections and efficiencies that support these activities (Job Aid for Disaster Recovery Reform Act, Section 1205 Additional Activities for Wildfire and Wind Implementation under Hazard Mitigation Assistance Programs) in December 2019.



Section 1215 – Management Costs

This provision addresses FEMA’s reimbursement of administrative costs incurred by SLTT governments for the management of HMGP projects. It increases the total amount of management costs eligible for reimbursement and expands the definition of management costs to include both direct and indirect administrative costs associated with a project.

Implementation:

FEMA issued an interim policy (Hazard Mitigation Grant Program Management Costs-Interim) on management costs for HMGP in November 2018. FEMA is gathering feedback on the implementation of this provision from stakeholders, which will inform the Agency’s development of final policies.



Section 1220 – Unified Federal Environmental and Historic Preservation

This provision requires FEMA to review and provide a report to Congress on the implementation of the Unified Federal Environmental and Historic Preservation (UFR) process, including the use of categorical exclusions by federal agencies, and to implement any recommendations by rulemaking.

Implementation:

FEMA finalized a report to Congress on its review of the UFR process and will work to implement any regulatory recommendations outlined in the report.



Section 1231 – Guidance on Hazard Mitigation Assistance (Acquisition)

This provision requires FEMA to issue guidance to SLTT governments on how to manage properties acquired for open space under the HMGP program.



Implementation:

FEMA released a Fact Sheet (Disaster Recovery Reform Act Acquisition of Property for Open Space) and a Model Statement of Assurances in September 2019.

Section 1234 – National Public Infrastructure Pre-Disaster Hazard Mitigation, known as BRIC

This provision authorizes FEMA to create a pre-disaster hazard mitigation program, known as Building Resilient Infrastructure and Communities (BRIC), to support greater investments in mitigation planning and projects before a disaster. These investments will be funded by a set-aside from the federal Disaster Relief Fund that is equal to six percent of the aggregate amount of federal disaster grants provided each year. By encouraging more cost-effective investment of taxpayer dollars before disaster strikes, the BRIC program will help save lives, reduce disaster suffering, and decrease disaster costs at the SLTT levels.



Implementation:

FEMA is developing a new pre-disaster mitigation program, BRIC, to implement this provision. The Agency has conducted extensive stakeholder engagement to inform the development of the BRIC program, including through webinars, regional/state workshops, national conferences, tribal engagements, and crowd sourcing; to date, FEMA has received over 5,000 comments across all channels. FEMA has allocated \$250 million of funding under this provision to fund its existing PDM program in FY2019. FEMA anticipates fully launching BRIC in FY2020.

Other Sections in Progress Relevant to HMA

See the “FEMA DRRA Annual Report, October 2019” or visit www.FEMA.gov/DRRA for more information.

Section 1206 – Eligibility for Code Administration and Enforcement

Section 1210(b) – Duplication of Benefits (Federally Authorized Water Resources Development Projects)

Section 1221 – Closeout Incentives

Section 1233 – Additional Hazard Mitigation Activities (Earthquakes)

Section 1235(a) – Additional Mitigation Activities (Resilience)

Section 1241 – Post-Disaster Building Safety Assessment

Section 1246 – Extension (Reasonable and Prudent Alternative)

Implementation of the DRRA has been, and will continue to be, a top priority for FEMA, including the HMA Division. In 2020, HMA will continue to work towards implementing additional DRRA provisions to bolster the nation’s capacity to prepare for, mitigate against, and recover from major disasters.

LOOKING AHEAD

In 2019, FEMA’s HMA Division saw many great successes in partnerships with other federal agencies, states, local communities, tribes, and territories. We look forward to continuing to build a culture of preparedness and to ready the nation for catastrophic disasters through our grant programs, the ongoing implementation of the DRRA, and the catalyzation of support for people in communities to reduce their losses from natural hazards in 2020 and beyond. Together, we will become even more resilient.



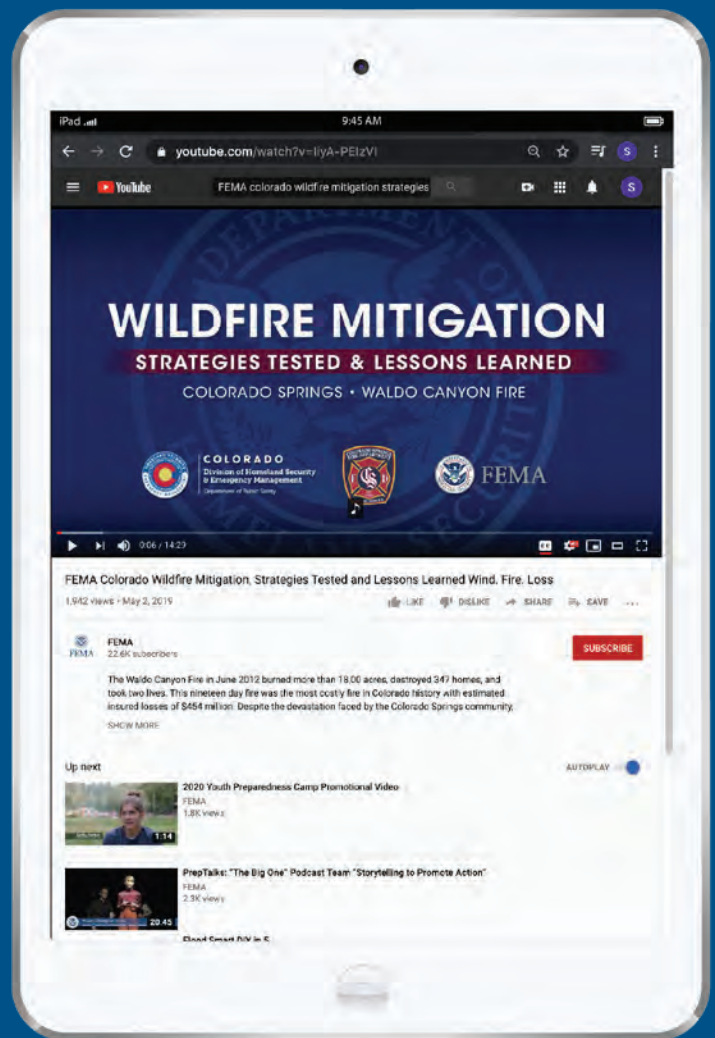
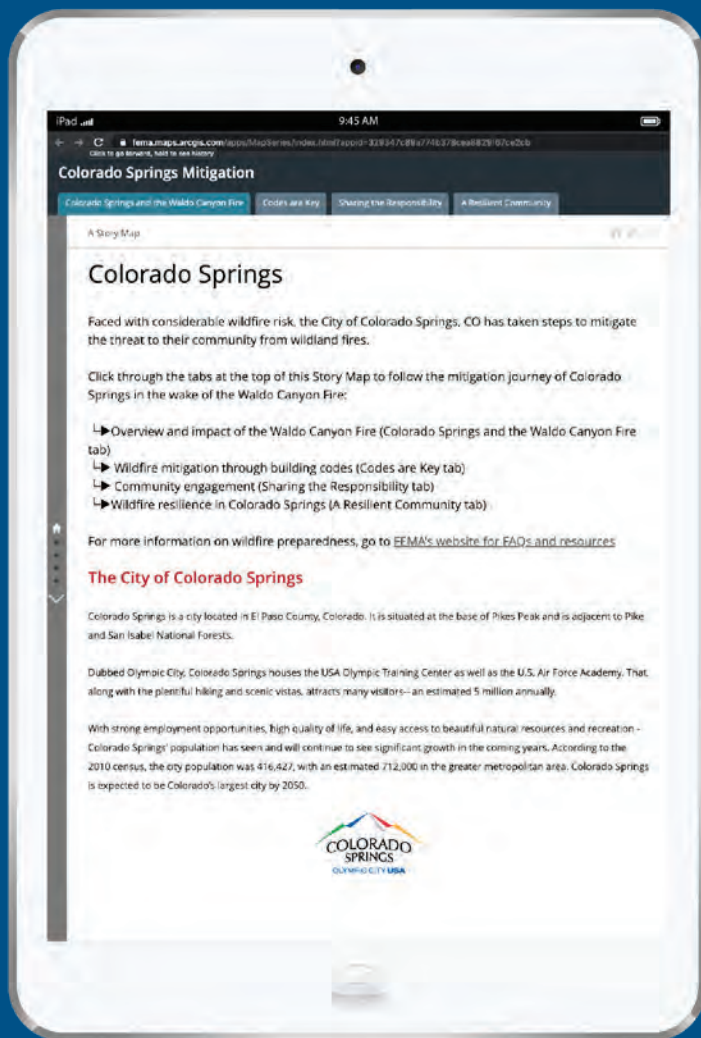
SUCCESS STORIES & SPOTLIGHTS

COLORADO SPRINGS, COLORADO

Sharing the Responsibility with Wildfire Mitigation Colorado Springs, Colorado has communities which are located near or adjacent to wilderness areas. A fast-moving wildfire in 2012, known as the Waldo Canyon Fire, swept through the area.

Prior to the 2012 fire, Colorado Springs used PDM grants to implement a wildfire mitigation plan, saving an estimated \$75 million and 250 homes. However, even with these efforts, 346 homes were destroyed by the Waldo Canyon Fire. Since then, the community has taken more actionable steps to mitigate against future damage by adopting stronger fire-resistive building code; through strategic community engagement, the Colorado Springs Fire Department and city officials partnered with at-risk neighborhoods to educate and motivate homeowners to actively participate in wildfire mitigation.

To learn more about Colorado Springs' successful wildfire mitigation program and its accelerated development after the lessons learned from the Waldo Canyon Fire, visit <https://arcg.is/1PLWv8>.



View the Colorado Springs Story Map at <https://arcg.is/1PLWv8>. Watch the wildfire mitigation video, "Sharing the Responsibility — Wildfire Mitigation in Colorado Springs, Colorado" at <https://www.youtube.com/watch?v=IiyA-PEIzVI>.

OLYMPIA, WASHINGTON

Seismic Retrofits of a Liberal Arts Institution

On February 28, 2001, a magnitude 6.8 earthquake hit Olympia, Washington and The Evergreen State College (Evergreen). This event, later named the Nisqually Earthquake, cracked walls in core academic buildings and the library, which required extensive epoxy injections to re-stabilize their structural integrity. The earthquake shook books off their shelves, caused suspended ceiling tiles to fall, and broke a water line in the library. The campus community felt this event as a call to action for public safety.

The Environmental Health and Safety Coordinator, in an effort to build resilience for the college, sought to better understand seismic risks and opportunities to reduce those risks. Evergreen needed to understand—and seek to reduce or eliminate—the long-term risk to people and property, by developing plans to mitigate the effects of natural hazards identified as causing the most harm to the community and its infrastructure.

In 2003, Evergreen joined Thurston County in the county’s first iteration of a multi-jurisdictional hazard mitigation plan (HMP). The hazard mitigation planning process provided an opportunity to strategically identify 16 seismic retrofit projects that would have the most benefit to the campus community. These projects were prioritized by college officials based the community’s needs at the time.

Following Evergreen’s adoption of the county’s HMP, the Evergreen Environmental Health and Safety Coordinator participated in FEMA BCA training, which proved critical for the school’s successful application. The training supported analysis of the impacts to specific buildings being damaged in an earthquake. The Environmental Health and Safety Coordinator dedicated substantial time and focus to steps needed for increasing overall resiliency of the campus to earthquakes through training, learning the nuances of grant requirements, and developing a relationship with the State Hazard Mitigation Officer. This dedication resulted in many successful and strategic applications, all based on the original prioritized list of 16 projects. Leveraging grant funds from the HMGP and PDM grant program, Evergreen has completed four retrofit projects to date and continues to build on its efforts as part of its broader mitigation goals.

Leveraging grant funds from the Hazard Mitigation Grant Program and Pre-Disaster Mitigation grant program, The Evergreen State College has completed four retrofit projects to date and continues to build on its efforts as part of its broader mitigation goals.

Ideas for future projects will build on this previous work, using the HMP, prioritization methodology, and relationships fostered with state experts as a template for successful risk reduction. Each project contributes to increasing Evergreen’s earthquake awareness and resilience—foundational for retaining current students and attracting future students. To learn more, visit <https://www.fema.gov/media-library/assets/documents/177756>.

Scenes from The Evergreen State College show seismic retrofit projects that have increased the campus’ resiliency to future seismic events.



NEWTOK, ALASKA

Mitigation Grants Support Relocation of Alaskan Village

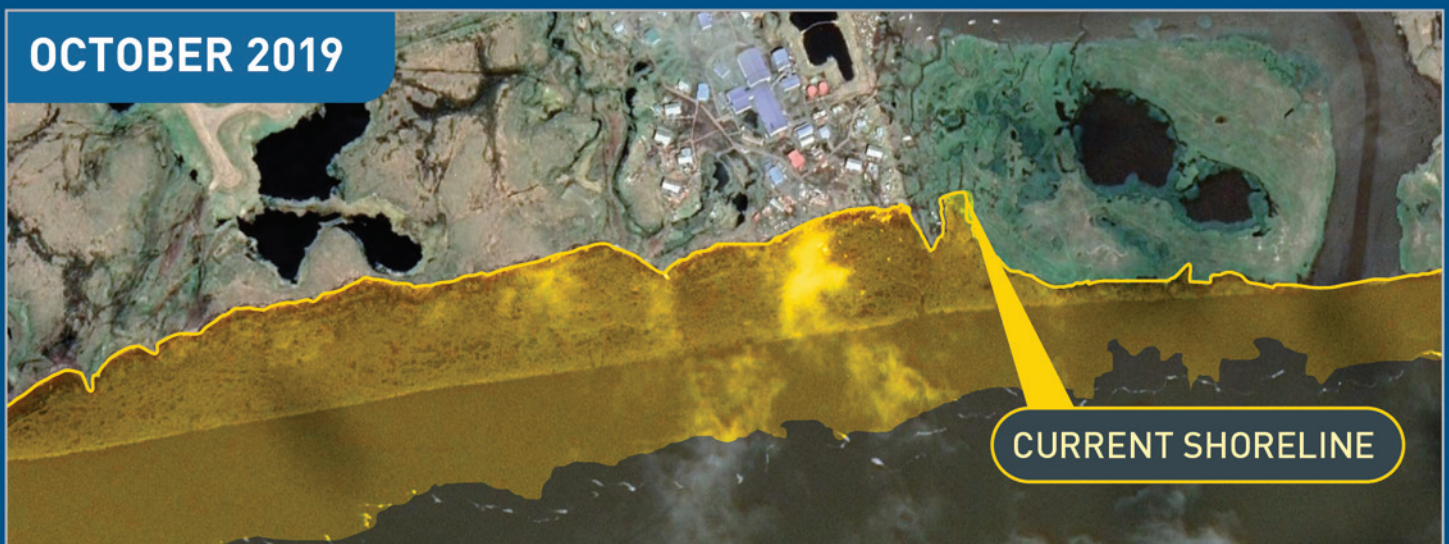
The small Alaskan Yup'ik Village of Newtok is threatened by melting permafrost, which has increased the erosion rate and risk of homes sinking into the tundra. The homes are also being flooded during the fall and winter storms that impact Western Alaska.

After conducting extensive erosion studies, the Newtok Village Council elected to relocate its 380 residents nine miles away to higher ground in the neighboring community of Mertarvik. In early October 2019, the first of the nearly 400 residents began relocating.

Over \$3.2 million in HMA grants have funded a variety of projects to support the relocation of Newtok residents. PDM grants have funded gravel building pads for the construction of new houses in Mertarvik, and HMGP will fund the acquisition and demolition of 12 current housing units in Newtok.

Other partners included the U.S. military, which contributed \$2.2 million to construct 13 new homes in Mertarvik; the Bureau of Indian Affairs, which is funding the construction of roads; and the Denali Commission, which is providing the new townsite at Mertarvik and relocation support services including housing and infrastructure planning, design, and construction.

The relocation will help ensure the community is safer, stronger, and more resilient for generations to come.



Images illustrate the advancing shoreline between 2007 and 2019 in Newtok, Alaska due to melting permafrost.

JOPLIN, MISSOURI

Missouri Schools Stand up to Tornadoes, Builds Safe Rooms

A deadly tornado struck Joplin, Missouri one Sunday in May 2011. Many of the 14 schools in the Joplin School District, where 7,000-8,000 students attend class, had been destroyed or damaged that day. At the time, there were no safe rooms for students, teachers, or administrators to seek shelter.

Since 2011, the Joplin School District, with federal assistance, has now built 14 school safe rooms. FEMA pays for 75 percent of safe room costs through the HMGP or PDM grant program—both administered by the state. Eligible applicants for school safe room funding must apply through the State Hazard Mitigation Officer.

Constructed to provide near-absolute protection against injury or death in extreme weather events, the safe rooms meet FEMA specifications including withstanding winds up to 250 mph. These safe rooms are made of reinforced or insulated concrete and impact-resistant walls and roofs. Openings such as doors and windows are protected by impact-resistant coverings. The shelters are located in an area of the buildings that can be reached quickly and easily by occupants without a need to go outside during a storm.

Today's Joplin school safe rooms also serve the community. Safe rooms open during the day after weather warnings for students, but community residents are also welcome if they have no other place to go.

The school district designates a Tornado Protection Zone—a half-mile radius around each school—as the area from which residents can take shelter in a school safe room when a tornado threatens. It's an area estimated to be a five-minute walk to the school, the doors are kept open for anyone who can get there in time. Many drive to safe rooms.

Significant severe weather again threatened Joplin and other parts of Missouri on May 22, 2019, the eighth anniversary of the 2011 disaster. Joplin school safe rooms protected 1,500-1,700 occupants that day.

Sometimes it takes a tragedy to initiate changes and to take steps to mitigate against another disaster. The Joplin community continues to cultivate a culture of preparedness, reducing the impact of disasters and supporting the safety of its residents.

The Joplin community continues to cultivate a culture of preparedness, reducing the impact of disasters and supporting the safety of its residents.



West Central Elementary School's safe room, the exterior of which is pictured here, is one of 14 safe rooms in the Joplin, Missouri school district funded in large part through the HMGP.



The multi-use safe room at West Central Elementary also serves as a gym.

MIDLAND, MICHIGAN

Land Reuse Project Promotes Resiliency and Public-Private Partnerships

The city of Midland, Michigan, located in the Tri-Cities Region of Central Michigan, is home to a vibrant business community and features a plethora of parkland and recreational areas. It has also been subjected to a recent series of flash floods, including near-historic flooding levels in 2017 caused by heavy rain.

In March of 2018, city officials submitted a reuse plan to FEMA Region V to transform three acquired parcels along the floodplain of the Tittabawassee River into the Poseyville Riverside Park. The plan included a landing structure for a pedestrian bridge over the river connecting baseball fields and walking trails. The proposed site was a former building and supply company with large amounts of concrete and asphalt sprawl.

FEMA Region V and the Michigan State Police Emergency Management and Homeland Security Division (MSP) worked with city officials to achieve as much site restoration as possible within the scope of the 2013 FMA grant and closed out the grant in 2018. However, much of the rubble remained, and the city applied to expand its greenways and beautify the rubble-strewn lots with help from non-profits like The Michigan Baseball Foundation and The Gerstacker Foundation, locally-based charitable organizations that are invested in keeping the community strong and vibrant.

Region V HMA and the MSP reviewed the application and provided feedback on how the city could reuse the parcels while maintaining the natural open space functions of the floodplain. This technical assistance process took several months, during which time Midland city officials and the MSP evaluated the floodplain impacts of the project and obtained state floodplain permits.

FEMA received the final permit and recommendation from the state government in July 2019. The city of Midland presented its new proposal to FEMA and MSP on August 22, 2019. In October of 2019, the FEMA Regional Administrator conditionally approved the reuse project, awaiting another study that incorporates floodplain impacts of the foot bridge. The reuse project is a great example of transforming undevelopable public space into parkland for the entire community to enjoy.



These parcels of land will be transformed into parkland for the Midland community while also serving to manage the floodplain.

ST. THOMAS, U.S. VIRGIN ISLANDS

Course Builds Stronger Path to Fortifying Building Codes

Using FEMA’s HMGP funding, the Virgin Islands Department of Planning and Natural Resources (DPNR) strengthened the knowledge of its building permits staff during a four-day International Code Council (ICC) Building Inspector Academy.

DPNR’s Division of Building Permits director said the course provided the agency’s site inspectors more expertise and support with its mission of being more resilient. “The rebuilding of our territory is geared toward building stronger, more resilient and safe homes, buildings, and structures that can withstand a higher wind and seismic load imposed upon them during future events.”

DPNR’s unit chiefs for building inspections, Amanda Jackson-Acosta, on St. Croix, and Ronald Regueiro, on St. Thomas, both said the course provided their teams opportunities to strengthen their expertise with inspections across the territory.



“The course has really helped broaden students’ knowledge in regards to different types of construction. An example is basements and crawl spaces. I see them a lot on St. Croix, but on St. Thomas they may not be typical.”

AMANDA JACKSON-ACOSTA

DPNR Unit Chief for Building Inspections

The ICC course provided Regueiro and classmates a chance to refine skills they have been implementing across the territory. “The course offers the ability to use and navigate through code books. That’s the most important thing. That’s a unique skill that you develop over time. The more you learn and navigate how different chapters work together, then it is easier to go through the book and find information that you need in a timely manner.”

ICC instructors emphasized the course’s importance for strengthening building inspections across the territory. “The main thing is becoming comfortable and familiar with using ICC residential codes. We are teaching them where things are located. How to navigate. How to look up information. It is important that students get to the right location in the book to see what minimum code requirements are.”

This class represents an ongoing collaboration between FEMA and DPNR to strengthen infrastructure so it can withstand future disasters in the Virgin Islands.

DPNR’s Division of Building Permits director concluded that “We are in a high-risk area for hurricanes, earthquakes, seismic events, and inland and coastal flooding. The weather forecasters predict that what is to come can be even more severe. Therefore, we must continue to build stronger and enforce codes to meet minimum code requirements compliance and in conjunction with additional requirements implemented for stronger and more resilient homes, buildings, and structures.”

An aerial photo of St. Thomas, U.S. Virgin Islands. Natural hazards in the region reinforce the need for stronger and more resilient infrastructure.



RIO ARRIBA COUNTY, NEW MEXICO

New Mexico Tribe Strengthens Community Following Post-Wildfire Flooding

The Santa Clara Pueblo of New Mexico is the largest of 19 Pueblos in the state. Situated in the Rio Grande River Valley, the Pueblo is located 24 miles north of Santa Fe. In recent years, the region has been severely impacted by numerous wildfires, all of which originated outside the Pueblo boundary yet burned nearly 80 percent of Santa Clara Pueblo forested lands. The historically severe 2011 Las Conchas Fire consumed over 150,000 acres including 16,000 acres of Santa Clara forests, with roughly 60 percent impacted by high severity fire.

These severe fires resulted in the removal of vegetation and organic matter within forest soils, which stabilize the soils and serve as a natural barrier against flooding. The region is also impacted by seasonal monsoons, which inundate the region with large amounts of precipitation. In recent years, post-fire debris flows flooded nearly all tributaries and the main stem of Santa Clara Creek. These flood events breached four dams and severely damaged roadways, recreation sites, and natural areas.

In response, the Pueblo tribe has since worked directly with FEMA and with the State of New Mexico to receive federal grants, and the Pueblo became the first tribe in FEMA Region VI to receive a Presidential Disaster Declaration. Working collaboratively alongside the tribe, FEMA, other federal interagency partners, and non-governmental organizations have supported innovative mitigation projects such as erosion control and bank stabilization, bioengineering with natural materials, reforestation, and incorporating bottomless culverts to provide increased flood capacity while maximizing natural stream function, fish passage, and ecosystem benefits.

Through collaboration, ecosystem restoration and adaptive management, the ecosystem and cultural ties to this sacred landscape can be reconnected. These benefits will extend to enhanced recreation opportunities for local communities while concurrently providing resiliency to future disasters and climate change.

See the full Santa Clara Pueblo Collaboration Story Map at: <https://arcg.is/oHGPHf>



An interactive story map details how the Santa Clara Pueblo cultivated post-wildfire resiliency in collaboration with FEMA and other interagency partners.

AGENCY VILLAGE, SOUTH DAKOTA

A Small Investment Provides Big Returns in a Tribal Community

When Agency Village, South Dakota, received heavy rainfall, the Sisseton-Wahpeton Oyate tribe's food distribution center loading dock flooded routinely. Water pooled at the foundation and loading dock pad, resulting in the gradual development of a small wetland area adjacent to the loading dock itself.

After South Dakota received a Presidential Disaster Declaration in 2016, the tribe was approved for a FEMA hazard mitigation grant and invested the funds in a winged culvert to redirect water flow away from the food distribution center building. The project, completed in July 2019, was the most cost-effective way to eliminate several potential hazards: building foundation erosion and mold conditions possible in the walls; work hazards associated with electric outlets, lines and cords; and small children being injured by possible exposure to contaminated water from insect life or animal waste frequently found in standing water.

The culvert shields three buildings from flooding: the Food Distribution Center, the Old Agency District/Community Center, and Lake Traverse Utilities, providing protection valued at \$1.2 million. The actual cost of the project, however, totaled less than \$16,000, with the Sisseton-Wahpeton Oyate tribe and federal government sharing the cost. The tribal share amounted to \$3,931 while the federal share totaled \$11,795, underscoring the power of partnership in hazard mitigation.

As a result of the drainage improvement, water no longer pools by the loading dock. After a recent rainfall of 1.82 inches, the drainage system proved effective.

“Every time it rained, the area around the loading dock would flood. In the winter it would freeze,” said the Director of Emergency Management for the Sisseton-Wahpeton Oyate Tribe. “With this improvement in place, we just had the wettest July in years and there was no pooling of water. The project is doing as we'd hoped.”

Mitigation efforts are not always large projects. Often, a small investment can make a big difference to prevent future losses.



Before installation of the winged culvert.



After installation of the winged culvert, which was successful in diverting water away from the loading dock.



FEMA