



MITIGATION Minute

JULY 2024

- 1 [DNRC Uses Drone LiDAR Tech](#)
- 2 [Mitigation Funding Opportunities & State HMP Update](#)
- 3 [Geohazards Workshop & MT DES Staff Tours Mitigation Sites](#)
- 4 [Flood After Fire](#)
- 5 [FEMA Streamlines Mitigation Grants](#)
- 6 [BRIC Sub-Applicant Grant Update & Training Opportunities](#)

Contents

Montana DNRC Uses Drone LiDAR Technology to Understand Water Flow

The Montana DNRC is utilizing drone and LiDAR technology to better understand and more effectively measure water flow. LiDAR, or Light Detection and Ranging, is a technology that uses laser beams to measure the distance and shape of objects in the environment. The drone uses photographs and Lidar technology to create a topographical map of the area.

In an interview with [KTVH News](#), David Saba, Hydrologist with the Montana Dept. of Natural Resources and Conservation stated: "The advantage of using LiDAR versus photogrammetry is the LiDAR unit can see through vegetation." Saba added that by creating these LiDAR models, they will be in a better position to know how much water is actually flowing at any time.

The DNRC began utilizing LiDAR drone technology last September and were impressed with the results. Boulder Creek is one of dozens of sites that the DNRC crew hopes to map. The Boulder Creek site has a gauging station that measures water height which helps the DNRC understand how much water is flowing. Creating these maps helps add an additional layer of information to what is gathered from the gauging station. According to Saba, "All this information can help to better manage water rights and create better policies."

Drones with GPS surveying LiDAR technology are cost prohibitive at this time, which means the DNRC will continue using manual GPS surveying equipment to assess river depth.



WEBSITE: [DES.MT.GOV](https://des.mt.gov)

Mitigation Funding Opportunities for 2024

Funding Opportunity	Funds Available	Application Deadline
FM-5480	\$918,774	September 2 nd , 2024 (Final Extension)
DR-4726	*\$122,281	October 11 th , 2024 (1 st Extension)
DR-4745	*402,688	September 2 nd , 2024
Nationally Competitive Funding		
BRIC 23	TBD NOFO – September 2024	December 12, 2024
FMA 23	TBD NOFO – September 2024	December 12, 202

**Current Estimated Amounts*

If you are interested in any open mitigation funding opportunity, please complete a NOI (Notice of Intent) located on the [Mitigation Grants page](#) on the MT DES website and submit it to the Mitigation team. Once we receive your NOI, we will reach out to you to further discuss project eligibility and the application process.



State & Regional Hazard Mitigation Plan Updates

State Plan Update:

- Approved and Adopted

Western Regional Plan Update:

- Revisions needed

Central Regional Plan Update:

- Revisions needed per FEMA Review of Central

Eastern Regional Plan Update:

- Revisions needed per FEMA Review of Central

2024 Montana Geohazards Workshop



Above: Geohazard Workshop attendees visit seismic sites in the Missoula area.

The Montana Bureau of Mines and Geology (MBMG) held the 2024 Montana Geohazards Workshop in partnership with the Missoula Disaster and Emergency Services office at the Emergency Operations Center (EOC), in Missoula May 1-2, 2024.

The first morning of the workshop kicked off with geohazards research and monitoring updates for Montana followed by a presentation on “Living with Seismic Hazards – Lessons Learned, Challenges, and Outlook for Communities and Infrastructure in Montana” given by Robb Moss of CalPoly.

Montana State Agencies including MT DES, DEQ, MDT, and State Library provided program information and updates. Additionally, FEMA, Resilient Action Partners, and Zylent participated in presentations and discussions. Missoula County DES rounded out the first day by providing Mitigation and Disaster Planning Strategies for the city of Missoula and Bitterroot Valley.

Day two of the workshop focused on the inception of the Montana Earthquake Working Group (MEWG) followed by a tabletop earthquake exercise. Attendees closed out the workshop with a discussion on Geoseismic history of the Missoula area.

MT DES Staff Learns About Mitigation

MT DES staff had the opportunity to learn about mitigation projects in western Montana and visit several work sites in June. Project overviews and site tours included Rock Creek Electric, Nine Mile Creek, Rossiter Elementary School, a Deerlodge acquisition site, and Missoula Water's Missoula Library rooftop garden.

Presentations focused on how the projects help to mitigate damage pre and post disaster, as well as protect lives, wildlife, property, and the environment.



Above Left: MT DES staff walk along Nine Mile Creek placer mining restoration project. Above Right: MT DES staff above Nine Mile Creek.

PREPAREDNESS: FLOOD AFTER FIRE

Floods are the most common and costly natural hazard in the nation. Whether caused by heavy rain, thunderstorms, or winter storms, the results of flooding can be devastating. While some floods develop over time, flash floods—particularly common after wildfires—can occur within minutes after the onset of a rainstorm. Even areas that are not traditionally flood-prone are at risk, due to changes to the landscape caused by fire. Residents should protect their homes and personal property with flood insurance—before a weather event. Flood risk remains significantly higher until vegetation is restored - up to 5 years after a wildfire.

Flood After Fire

Did you know wildfires dramatically alter the terrain and increase the risk of floods? Excessive amounts of rainfall can happen throughout the year. And properties directly affected by fires and those located below or downstream of burn areas are most at risk for flooding.

- 1 During normal conditions, vegetation helps absorb rainwater.
- 2 But after an intense wildfire, burned vegetation and charred soil form a water repellent layer, blocking water absorption.
- 3 During the next rainfall, water bounces off of the soil.
- 4 As a result, properties located below or downstream of the burn areas are at an increased risk for flooding.

Degree of Land Slope
Higher degrees of land slope speed up water flow and increase flood risk.

Flash Floods
Intense rainfall can flood low-lying areas in less than six hours. Flash floods roll boulders, tear out trees and destroy buildings and bridges.

Mudflows
Rivers of liquid and flowing mud are caused by a combination of brush loss and subsequent heavy rains. Rapid snowmelt can also trigger mudflows.

Reduce your risk. The time to buy flood insurance is now. Contact your local insurance agent for more information or visit the National Flood Insurance Program at [FloodSmart.gov/wildfire](https://www.floodsmart.gov/wildfire).

PREPARE NOW. PLAN AHEAD

Post fire flooding and flood damage is often more severe, as debris and ash left from the fire can form mudflows. As rainwater moves across charred and barren ground, it can also pick up soil and sediment and carry it in a stream of floodwaters causing more significant damage. Residents and business owners are urged to purchase flood insurance to assure financial protection from flooding.

Visit [Montana DNRC's Floodplain Program page](#) for information specific to Montana flood after fires, communities, and regulations.



FEMA STREAMLINES COST-EFFECTIVENESS IN MITIGATION GRANT PROGRAMS

FEMA is streamlining [Benefit-Cost Analysis](#) (BCA) to facilitate access to make more communities resilient to natural hazards and the effects of climate change. This addresses long-standing barriers certain communities—particularly those that are underserved—have had accessing mitigation grants through the [Hazard Mitigation Assistance](#) grant programs and [Public Assistance](#) mitigation funding.

This aligns with the FEMA Year of Resilience goal to build local capacity to withstand tomorrow’s hazards as well as the agency’s “people first” commitment to help communities, families and businesses build climate resilience.

FEMA is reducing the discount rate from 7% to 3.1% to make it easier for states, Tribal Nations, territories, and local governments to demonstrate cost-effectiveness of hazard mitigation projects when completing a Benefit-Cost Analysis. [FEMA’s Benefit-Cost Analysis toolkit](#) has the discount rate built into its calculations and has been updated. Applicants do not need to perform separate calculations or redownload the toolkit to use the new discount rate.

Here are other ways that FEMA is simplifying the benefit-cost analysis requirements for its hazard mitigation grant programs:

- Implementing distributional weights in determining the cost-effectiveness of a hazard mitigation project. The distributional weights will automatically adjust the Benefit-Cost Analysis results by increasing the building replacement value for properties located in census tracts with household incomes below the national median. These benefits will make it easier for projects in disadvantaged communities to be eligible for mitigation grant funding.
- No longer requiring a full Benefit-Cost Analysis for projects being funded through its Hazard Mitigation Assistance grant programs with a total cost of less than \$1 million.
- Offering FEMA Benefit-Cost Analysis assistance to disadvantaged communities and Tribal Nations to determine hazard mitigation project cost-effectiveness.
- Updating the pre-calculated benefit amounts that can be used to determine hazard mitigation project cost-effectiveness. The term “pre-calculated benefit” refers to a benefit value that has been calculated based on research and statistical analysis or computer modeling of mitigation projects. Pre-calculated benefits simplify the cost-effectiveness determination process by eliminating the requirement for applicants to conduct separate BCAs for eligible projects.

By making it easier to demonstrate cost-effectiveness for hazard mitigation projects, applicants and sub applicants can more effectively implement and fund resiliency initiatives that will save lives and protect infrastructure and property.

For questions about Benefit-Cost Analysis or the Benefit-Cost Analysis Toolkit, email the helpline at bchelp@fema.dhs.gov or call toll free at 855-540-6744, 9 a.m. to 5 p.m. ET Monday through Friday.

UPDATE: BUILDING RESILIENT INFRASTRUCTURE AND COMMUNITIES (BRIC) SUBAPPLICATION STATUS

On July 2, 2024, FEMA announced the selections for the Fiscal Year 2023 Building Resilient Infrastructure and Communities (BRIC) grant cycle. This funding opportunity for \$1 billion was open from Oct. 16, 2023 – Feb. 29, 2024.

For this grant cycle announcement, FEMA received a record-number of applications from states, tribal nations, territories and local communities. In total, 1,284 subapplications were submitted requesting more than \$5.664 billion in federal cost share. This is five times more than the funding available.

FEMA is announcing the subapplications “identified for further review”. This is not a guarantee a project will be funded. With this status selection, there is available funding and the subapplicant may be asked to submit additional information before the

project is determined eligible to be funded.

Montana BRIC subapplications identified for further review include the following:

- Water Utility - Forsyth
- Stillwater County
- Town of Bear Creek
- Carbon County

An additional ten Montana BRIC submissions either did not meet HMA Regulations or were not selected.

FEMA also announced the annual non-financial BRIC Direct Technical Assistance (DTA) opportunity. In its fourth year, FEMA received 170 submissions. Montana counties awarded BRIC DTA include Ravalli and Toole.

Training Opportunities

Build America Buy America Act Webinar Series. Now through August 2024. Register and view topics at [Build America, Buy America Act \(BABAA\) Lunch & Learn Webinar](#).

New Hazard Mitigation Webinar Series: From Policy to Action. [Available](#) on FEMA's YouTube Channel. [Watch the recorded](#) webinar online.

Procurement Under Grants Training. Live virtual trainings and webinar series available anytime. Training focuses on purchasing in compliance with federal procurement rules. [Procurement Under Grants Training](#).

Floodplain Bootcamp Weekly Workshop: Every Friday through 2024, starting December 1, 2023. Agenda TBD. POC: Traci Sears, tsears@mt.gov.

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