



**Eagle County**



# **Hazard Mitigation Plan 2024**

Prepared by:



JEO CONSULTING GROUP



# Eagle County Planning Team

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# Table of Contents

Eagle County Planning Team.....	1
Table of Contents.....	3
List of Figures .....	5
List of Tables .....	5
Section 1: Introduction .....	7
Hazard Mitigation Planning.....	7
Hazard Mitigation Assistance .....	7
Summary of Changes.....	9
Goals and Objectives .....	9
Participating Jurisdictions .....	10
Section 2: How to Use This Hazard Mitigation Plan .....	11
Introduction .....	11
How to Use This Document.....	11
Section Three: Planning Area Overview.....	13
Introduction .....	13
Location and Geography .....	13
Demographics .....	13
Housing.....	16
Employment and Economics .....	18
Section Four: Planning Process Summary.....	19
Introduction .....	19
Plan Update Process.....	19
Stakeholder and Public Involvement.....	21
Section Five: Risk Assessment Summary.....	23
Introduction .....	23
Hazard Identification.....	23
Hazard Assessment Summary Tables.....	24
FEMA National Risk Index.....	27
Historical Disaster Declarations.....	28
Hazard Profiles.....	29
Section Six: Mitigation Strategy.....	31
Introduction .....	31
Summary of Changes.....	31
Selected Mitigation and Strategic Actions.....	31
Participant Mitigation Actions.....	32
Section Seven: Plan Implementation and Maintenance .....	33
Monitoring, Evaluating, and Updating the Plan .....	33
Continued Public Involvement .....	34
Unforeseen Opportunities.....	34
Incorporation into Existing Planning Mechanisms.....	34
Section Eight: Participant Profiles .....	37
Purpose of Participant Profiles .....	37
Participant Profile Appendices	
Eagle County and Community Appendix	
Eagle County	
Town of Avon	
Town of Eagle	

## Table of Contents

Town of Gypsum	
Town of Minturn	
Town of Red Cliff	
Town of Vail	
Special Districts Appendix	
Basalt Library District	
Basalt Sanitation District	
Berry Creek Metro District	
Cordilla Metro District	
Eagle County Paramedic Services	
Eagle County School District	
Eagle River Fire Protection District	
Eagle River Water & Sanitation District	
Eagle Vail Metropolitan District	
Eagle Valley Library District	
Eagle Valley Transportation Authority	
Greater Eagle Fire Protection District	
Gypsum Fire Protection District	
Mountain Recreation Metropolitan District	
Roaring Fork Fire Rescue Authority	
Vail Recreation District	
Appendix A: Full Risk Assessment	
Appendix B: Planning Process Documentation	
Appendix C: Planning Area Profile	
Appendix D: Mitigation Strategy	
Appendix E: Hazard Mitigation Project Funding Guidebook	
Appendix F: Guide to Review and Update the Hazard Mitigation Plan	

# List of Figures

Figure 1: County Population, 1890-2020 .....	13
Figure 2: Eagle County Planning Area .....	14
Figure 3: Population by Age Cohort and Sex (2020) .....	15
Figure 4: Housing Age in Eagle County .....	17
Figure 5: Project Timeline .....	19
Figure 6: First Responders at an Emergency Incident.....	35

# List of Tables

Table 1: 2019 Plan Comments and Revisions.....	9
Table 2: Participating Jurisdictions .....	10
Table 3: School Inventory .....	15
Table 4: County Inventory of Care Facilities.....	16
Table 5: County & State ESL and Poverty At-Risk Populations.....	16
Table 6: County Racial Composition Trends .....	16
Table 7: County Housing Characteristics .....	16
Table 9: Vulnerable County & State Housing Characteristics .....	17
Table 10: Vulnerable Employment & Economic Characteristics .....	18
Table 11: Hazards Addressed in the Plan .....	23
Table 12: Loss Estimation for Eagle County.....	25
Table 13: County Risk Assessment.....	26
Table 14: National Risk Index .....	27
Table 15: Presidential Disaster Declarations.....	28
Table 16: USDA Secretarial Disasters (2012-2023) .....	28
Table 17: Prioritized Hazards of Concern by Jurisdiction .....	29

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# Section 1: Introduction

## Hazard Mitigation Planning

Hazard mitigation planning is a process in which hazards are identified and profiled; people and facilities at-risk are identified and assessed for threats and potential vulnerabilities; and strategies and mitigation measures are identified. Hazard mitigation planning increases the ability of communities and other governmental entities to effectively function in the face of natural disasters. The goal of the process is to reduce risk and vulnerability, in order to lessen impacts on life, the economy, and infrastructure.



FEMA definition of  
Hazard Mitigation

“Any sustained action taken to reduce or eliminate the long-term risk to human life and property from [natural] hazards.”

Severe weather and hazardous events are occurring more frequently in our daily lives. Pursuing mitigation strategies reduces risk and is socially and economically responsible to prevent long-term risks from natural and human-caused hazard events.

Hazards, such as severe winter weather, avalanche, severe wind, intentional attacks, landslides, floods, lightning, and wildfires are part of the world around us. These hazard events can occur as a part of normal operation or because of human error. All jurisdictions participating in this planning process are vulnerable to a wide range of hazards that threaten the safety of residents and have the potential to damage or destroy both public and private property, cause environmental degradation, or disrupt the local economy and overall quality of life.

This plan is an update to the Eagle County Hazard Mitigation Plan approved in 2019. The plan update was developed in compliance with the requirements of the Disaster Mitigation Act of 2000 (DMA 2000). By preparing this plan, Eagle County has demonstrated a commitment to reducing risks from hazards and to helping decision makers establish mitigation activities and resources.

## Hazard Mitigation Assistance

On June 1, 2009, FEMA initiated the Hazard Mitigation Assistance program integration, which aligned certain policies and timelines of the various mitigation programs. These Hazard Mitigation Assistance programs present a critical opportunity to minimize the risk to individuals and property from hazards while simultaneously reducing the reliance on federal disaster funds.



**Mitigation** is the cornerstone of emergency management. Mitigation focuses on breaking the cycle of disaster damage, reconstruction, and repeated damage. Mitigation lessens the impact disasters have on people's lives and property through damage prevention, appropriate development standards, and affordable flood insurance. Through measures such as avoiding building in damage-prone areas, stringent building codes, and floodplain management regulations, the impact on lives and communities is lessened.

- FEMA Mitigation Directorate

Each Hazard Mitigation Assistance program was authorized by separate legislative actions, and as such, each program differs slightly in scope and intent.

- **Hazard Mitigation Grant Program:** To qualify for post-disaster mitigation funds, local jurisdictions must adopt a mitigation plan that is approved by FEMA. Hazard Mitigation Grant Program provides funds to states, territories, Indian tribal governments, local governments, and eligible private non-profits following a presidential disaster declaration. The DMA 2000 authorizes up to seven percent of Hazard Mitigation Grant Program funds available to a state after a disaster to be used for the development or update of state, tribal, and local mitigation plans.
- **Flood Mitigation Assistance:** This program provides grant funds to implement projects such as acquisition or elevation of flood-prone homes. Jurisdictions must be participating communities in the National Flood Insurance Program to qualify for this grant. The goal of Flood Mitigation Assistance is to reduce or eliminate claims under the National Flood Insurance Program.
- **Building Resilient Infrastructure and Communities:** This program replaced the Pre-Disaster Mitigation Program beginning in 2020 and provides funds on an annual allocation basis to local jurisdictions for implementing programs and projects to improve resiliency and local capacity before disaster events.
- **Pre-Disaster Mitigation:** The Pre-Disaster Mitigation grant program makes federal funds available to state, local, tribal, and territorial governments to implement measures designed to reduce the risk to individuals and property from future natural hazards. The Consolidated Appropriations Act of 2023 authorizes funding for 100 projects with total funds of \$233,043,782 in 2023.
- **Fire Mitigation Assistance Grants:** Section 404 of the Stafford Act allows FEMA to provide Hazard Mitigation Grant Program grants to any area that received a Fire Management Assistance Grant declaration even if no major Presidential declaration was made. Fire Mitigation Assistance Grants aids communities in implementing long-term mitigation measures after a wildfire event.

For more information about these grant programs and other funding opportunities to help implement identified mitigation actions see *Appendix E: Hazard Mitigation Project Funding Guidebook*.

## Summary of Changes

The hazard mitigation planning process undergoes several changes during each plan update to best accommodate the planning area and specific conditions. Changes from the 2019 Hazard Mitigation Plan and planning process in this update included: an updated plan layout, greater efforts to reach and include stakeholder groups, greater effort to include all taxing authorities as participants; a more in-depth funding guidebook; and changes to meet updated FEMA hazard mitigation plan policies. The plan was also updated to reflect changing priorities for each participating jurisdiction. Prioritized hazards of concern were identified by each local planning team along with a review of mitigation actions. Each local planning team reviewed the mitigation actions from 2019 and updated the timeline, priority (high, medium, low), and status. Local planning teams were also able to add new mitigation actions to better fit any changing priorities and concerns. The 2019 Eagle County Hazard Mitigation Plan Review Tool was reviewed for possible changes to incorporate into this plan update and were addressed where applicable. These changes are described in the table below.

**Table 1: 2019 Plan Comments and Revisions**

Comment/Revision from 2019 Review Tool	Location of Revision	Summary of Changes
Consider utilizing GIS data of hazards, people, and structures during the annual review process to simplify the exposure and vulnerability update in the next plan.	Participant Profile, Appendix A	GIS data and maps were added and included throughout the plan when data was available.

## Goals and Objectives

The potential for disaster losses and the probability of occurrence of natural and human-caused hazards present a significant concern for the jurisdictions participating in this plan. The driving motivation behind this hazard mitigation plan is to reduce vulnerability and the likelihood of impacts to the health, safety, and welfare of all citizens in the planning area. To this end, the Eagle County Planning Team reviewed and approved goals which helped guide the process of identifying both broad-based and jurisdictional-specific mitigation strategies and projects that will, if implemented, reduce their vulnerability and help build stronger, more resilient communities.

Goals from the 2019 hazard mitigation plan were reviewed, and the Eagle County Planning Team agreed that they are still relevant and applicable for this plan update. The updated goals and objectives for this plan update are as follows.

### **Goal 1: Protect Life, Property, and the Environment by Reducing the Impact of Natural and Human-Caused Hazards in Eagle County**

#### Objectives

- A. Enhance assessment of multi-hazard risk to life, property and the environment to identify areas within Eagle County that are at particular risk from catastrophic loss due to wildfires, floods, avalanches, and other hazards.
- B. Develop and implement action plans to reduce potential loss of life, property, critical infrastructure, and valued resources while protecting the safety of the public and emergency responders.
- C. Provide framework for implementation and management of mitigation actions identified by this plan.
- D. Increase public education and awareness of hazards and risk reduction measures.

## Goal 2: Minimize Economic Losses and Speed Recovery and Redevelopment Following Future Disaster Events

### Objectives

- A. Strengthen disaster resiliency of governments, businesses, and community members.
- B. Promote and conduct continuity of operations and continuity of governance planning.
- C. Reduce financial exposure of the county, municipal governments, and fire protection districts.

## Goal 3: Implement the Mitigation Actions Identified in this Plan

### Objectives

- A. Engage collaborative partners, community organizations, businesses, and others.
- B. Commit to hazard mitigation principles and integrate mitigation activities into existing and new community plans and policies.
- C. Comply with federal and state legislation and guidance for local hazard mitigation planning.
- D. Proactively prepare to minimize secondary hazards associated with expected events.
- E. Monitor, evaluate, and update the mitigation plan on an annual basis and modify plans as necessary.

## Participating Jurisdictions

Jurisdictions that participated in the Eagle County Hazard Mitigation Plan are listed in the table below. These jurisdictions met all the requirements for participation by attending required meetings, assisting in data collection, identifying mitigation actions, reviewing plan drafts, and either adopting the plan by resolution or planning to adopt the plan by resolution.

**Table 2: Participating Jurisdictions**

Participating Jurisdictions	
Eagle County	Eagle County School District
Town of Avon	Eagle River Fire Protection District
Town of Eagle	Eagle River Water & Sanitation District
Town of Gypsum	Eagle Vail Metropolitan District
Town of Minturn	Eagle Valley Library District
Town of Red Cliff	Eagle Valley Transportation Authority
Town of Vail	Greater Eagle Fire Protection District
Basalt Library District	Gypsum Fire Protection District
Basalt Sanitation District	Mountain Recreation Metropolitan District
Berry Creek Metro District	Roaring Fork Fire Rescue Authority
Cordillera Metro District	Vail Recreation District
Eagle County Paramedic Services	

# Section 2: How to Use This Hazard Mitigation Plan

## Introduction

This hazard mitigation plan was developed for anyone that lives, works, owns a business, owns land, or visits Eagle County. Different sections of the plan will be helpful to different people. This section is designed to help guide readers to the most relevant information.

## How to Use This Document

### Jurisdiction that Participated in the Plan

I am a governing official from a participating jurisdiction and want to learn more about the hazards that could impact my jurisdiction, identified strategies to reduce vulnerability to those hazards, how to secure funding for those strategies, and how to keep the plan up to date.

- **Section Three and Appendix C:** To learn about demographics, at-risk populations, housing, employment, economics, social vulnerability, rural capacity index, state and federal areas, and historical sites.
- **Section Five and Appendix A:** To learn about the hazards that could impact Eagle County, where those hazards are likely to occur, how often they are likely to occur, the possible extent of the hazards, how climate change will impact the hazards, and countywide vulnerabilities.
- **Section 6 and Appendix F:** To learn about plan maintenance and how to update your participant section.
- **Section 7:** To learn jurisdictional specific information about Eagle County, local communities, and other local jurisdictions. Each participant section contains information about prioritized hazards, community lifelines, and mitigation strategies.
- **Appendix E:** To learn about various federal, state, and other funding sources to help pay for identified mitigation strategies.

### Resident, Landowner, Visitor, or Business

I am a resident, landowner, visitor, or business and want to learn about Eagle County/my community, protecting my family, home, and property from natural and manmade hazards.

- **Section Three and Appendix C:** To learn about demographics, at-risk populations, housing, employment, economics, social vulnerability, rural capacity index, state and federal areas, and historical sites.
- **Section Five and Appendix A:** To learn about the hazards that could impact Eagle County, where those hazards are likely to occur, how often they are likely to occur, the possible extent of the hazards, how climate change will impact the hazards, and countywide vulnerabilities.

- **Section 7:** To learn jurisdictional specific information about Eagle County, local communities, and other local jurisdictions. Each participant section contains information about prioritized hazards, community lifelines, and mitigation strategies.

### **State or Federal Agency**

I am with a state or federal agency and want to learn more about the planning process, hazard risks, and mitigation strategies across all jurisdictions in Eagle County.

- **Section One:** To learn about the goals and objectives of the Eagle County Hazard Mitigation Plan.
- **Section Three and Appendix C:** To learn about demographics, at-risk populations, housing, employment, economics, social vulnerability, rural capacity index, state and federal areas, and historical sites.
- **Section Four and Appendix B:** To learn about the planning process, who attended meetings, and who was invited to participate.
- **Section Five and Appendix A:** To learn about the hazards that could impact Eagle County, where those hazards are likely to occur, how often they are likely to occur, the possible extent of the hazards, how climate change will impact the hazards, and countywide vulnerabilities.
- **Appendix D:** To learn about the mitigation strategies identified by each participating jurisdiction.

# Section Three: Planning Area Overview

## Introduction

To identify jurisdictional vulnerabilities, it is vitally important to understand the people and built environment of the planning area. The following section provides a summary of Eagle County's characteristics. A more detailed profile broken down by community is covered in *Appendix C*, including demographics, at-risk populations, employment, economics, and housing.

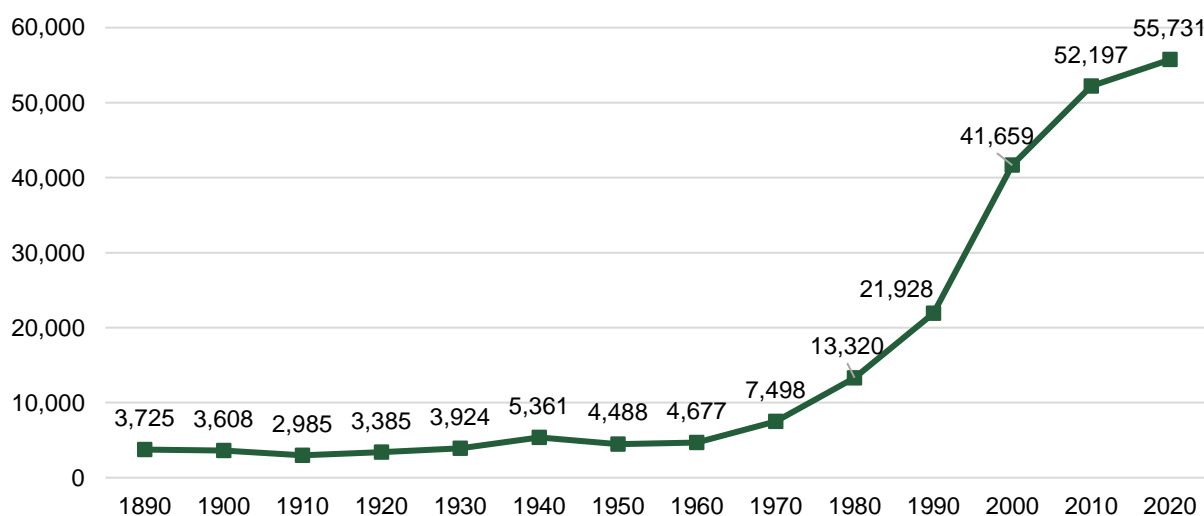
## Location and Geography

Eagle County is located in the Rocky Mountains of northwestern Colorado. The county covers 1,692 square miles and elevation ranges from 6,128 feet to 14,011 feet above sea level. The White River National Forest covers a large portion of the eastern and southern portions of the county. There are seven incorporated communities in Eagle County: Town of Avon, Town of Basalt, Town of Eagle, Town of Gypsum, Town of Minturn, Town of Red Cliff, and the Town of Vail. Major transportation routes include Interstate 70, U.S. Highway 6, U.S. Highway 24, State Highway 82, and State Highway 131. Major waterways in the district include the Colorado River, Eagle River, Piney River, Gypsum Creek, Brush Creek, Derby Creek, Rock Creek, Alkali Creek, and Gore Creek. Figure 2 shows Eagle County, incorporated communities, major transportation routes, major waterways, and location within the state.

## Demographics

The U.S. Census Bureau collects specific demographic information for Eagle County. The estimated population of the planning area is 55,731.<sup>1</sup>

**Figure 1: County Population, 1890-2020**

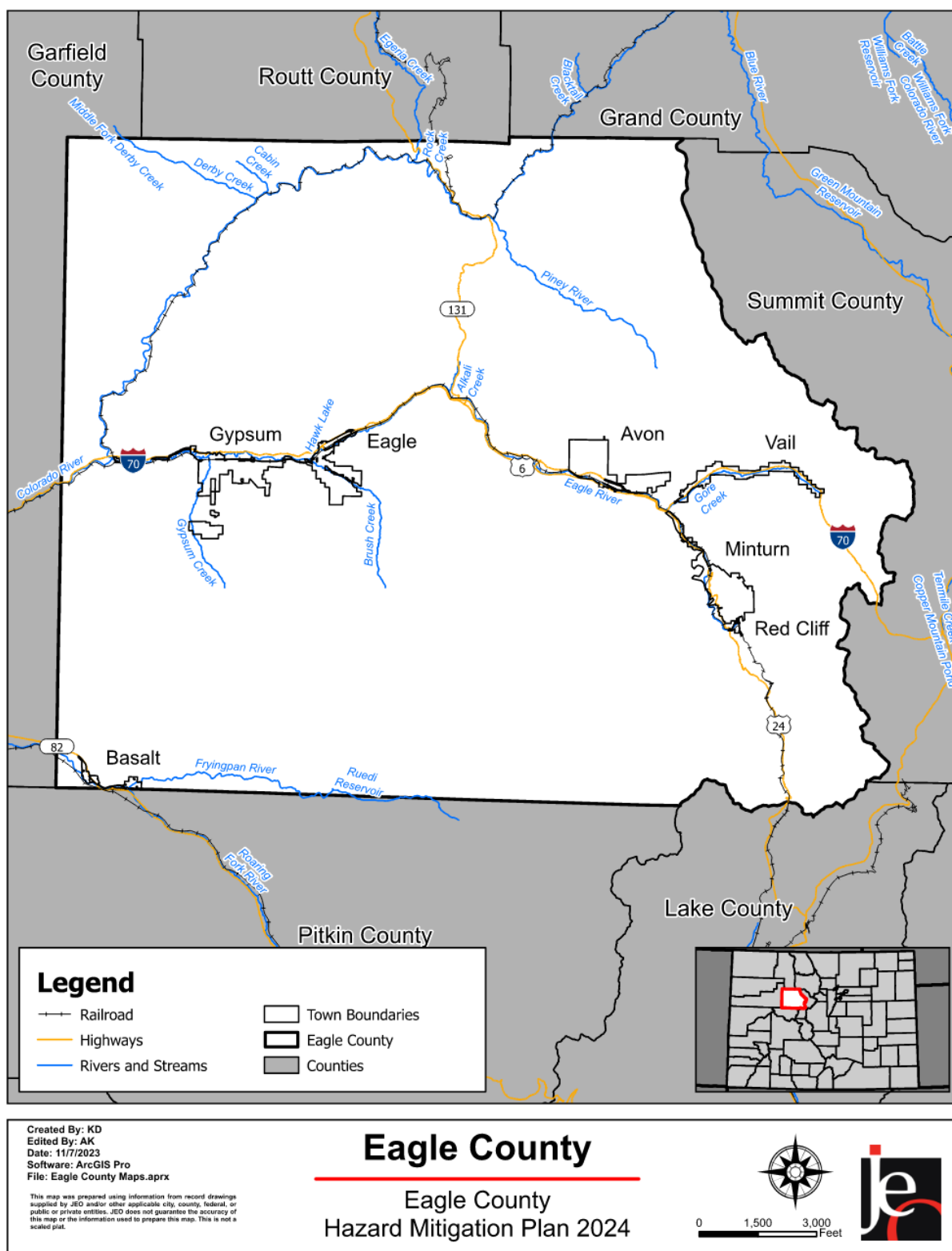


Source: U.S. Census Bureau<sup>2</sup>

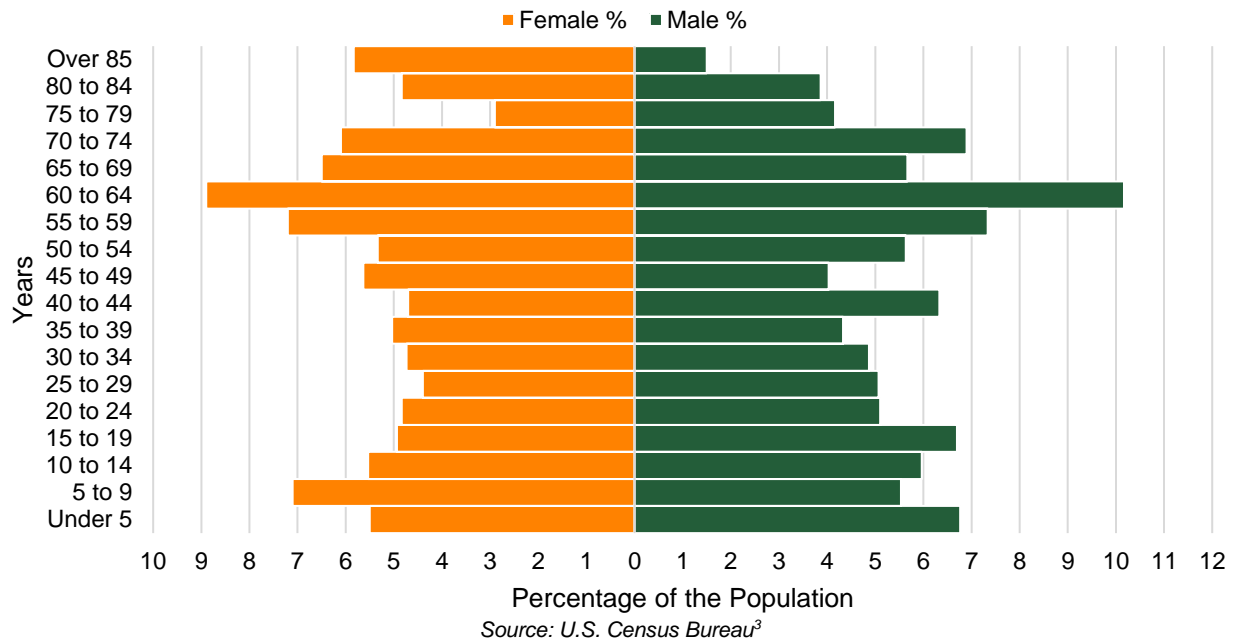
<sup>1</sup> United States Census Bureau. "2020 Census Bureau Decennial Census: P1: Race." <https://data.census.gov/>.

<sup>2</sup> United States Census Bureau. "2020 Census Bureau Decennial Census: P1: Race." <https://data.census.gov/>.

**Figure 2: Eagle County Planning Area**





**Figure 3: Population by Age Cohort and Sex (2020)**

Community and regional vulnerability are impacted by growing or declining populations. Areas growing quickly may lack resources to provide services for all residents in a reasonable timeframe including snow removal, emergency storm shelters, repairs to damaged infrastructure, or even tracking the location of vulnerable populations. Eagle County has displayed large population growth since 1970. However, growth has slowed in 2010 and 2020. Additional population information broken down by community can be found in *Appendix C*.

In general, certain populations may have increased vulnerability due to difficulty with medical issues, extremes in age, and communication issues due to language barriers. Several at-risk populations have been identified in Eagle County. These include:

- Schools
- Care Facilities
- Populations That Speak English as a Second Language
- Racial Minorities

The tables on the next page list the at-risk populations in Eagle County. For addition information about at-risk populations see *Appendix C*.

**Table 3: School Inventory**

School District	Total Enrollment (2022-2023)	Teachers (2022-2023)
Eagle County School District	6,623	532

Source: Colorado Department of Education<sup>4,5</sup>

3 United States Census Bureau. "2020 Census Bureau Decennial Census: P1: Race." <https://data.census.gov/>.

4 Colorado Department of Education. September 2023. "PK-12 Membership Trend by District."

<https://www.cde.state.co.us/cdereval/pupildcurrent>.

5 Colorado Department of Education. September 2023. "Count of Teachers by District, Ethnicity and Gender."

<https://www.cde.state.co.us/cdereval/pupildcurrent>.

**Table 4: County Inventory of Care Facilities**

Hospitals	Adult Care Homes	Assisted Living Homes
1	1	1

Source: Colorado Department of Public Health and Environment<sup>6</sup>

**Table 5: County & State ESL and Poverty At-Risk Populations**

Jurisdiction	Percent That Speaks English as Second Language
Eagle County	25.8%
State of Colorado	16.3%

Source: U.S. Census Bureau<sup>7</sup>

**Table 6: County Racial Composition Trends**

Race	2010	2010	2021	2021	% Change
	Number	% of Total	Number	% of Total	
White, Not Hispanic	43,428	83.2%	45,334	81.4%	-1.8%
Black	365	0.7%	501	0.9%	0.2%
American Indian and Alaskan Native	365	0.7%	56	0.1%	-0.6%
Asian	522	1.0%	779	1.4%	0.4%
Native Hawaiian and Other Pacific Islander	0	0.0%	56	0.1%	0.1%
Other Races	6,421	12.3%	2,061	3.7%	-8.6%
Two or More Races	1,096	2.1%	6,906	12.4%	10.3
Total Population	52,197	-	55,694	-	-

Source: U.S. Census Bureau<sup>8,9</sup>

## Housing

The U.S. Census Bureau provides information related to housing units and potential areas of vulnerability. Potentially vulnerable housing characteristics include vacant housing, rental properties, mobile homes, older housing, those with no internet, and homes with no vehicles available. The tables below show vulnerable housing characteristics in Eagle County. Additional housing information broken down by community can be found in *Appendix C*.

**Table 7: County Housing Characteristics**

Jurisdiction	Occupied Housing Units	Vacant Housing Units	Owner Occupied Housing Units	Renter Occupied Housing Units
Eagle County	19,511 (59.8)	13,100 (40.2%)	13,884 (71.2%)	5,627 (28.8%)

Source: U.S. Census Bureau<sup>10</sup>

6 Colorado Department of Public Health and Environment. 2023. "Regulated Health Facilities". <https://cdphe.colorado.gov/find-and-compare-facilities>.

7 United States Census Bureau. "2021 Census Bureau American Community Survey: S1601: Language Spoken at Home." <https://data.census.gov/>.

8 United States Census Bureau. "2010 Census Redistricting Data (Public Law 94-171): P1: Race." <https://data.census.gov/>.

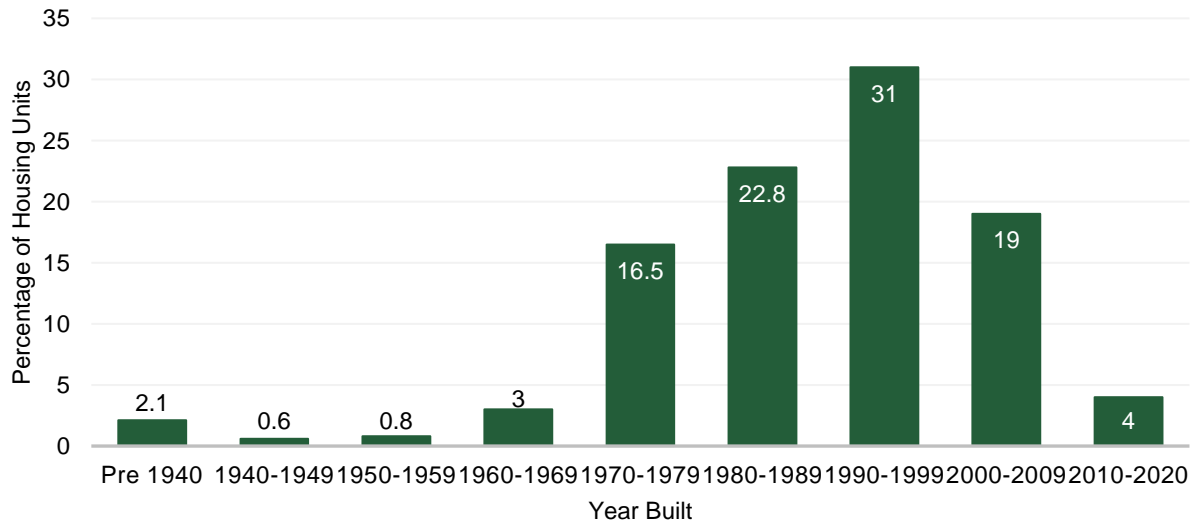
9 United States Census Bureau. "2021 Census Bureau American Community Survey: DP05: ACS Demographic and Housing Estimates." <https://data.census.gov/>.

10 United States Census Bureau. "2021 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov/>.

**Table 8: Vulnerable County & State Housing Characteristics**

Housing Characteristics	Eagle County	State of Colorado
Occupied Housing Units	19,511 (59.8%)	2,227,932 (90.8%)
Lacking Complete Plumbing Facilities	0.1%	0.3%
Lacking Complete Kitchen Facilities	0.5%	0.7%
No Telephone Service Available	1.0%	1.0%
Broadband Internet Subscription	95.1%	90.9%
No Vehicles Available	3.4%	5.0%
Mobile Homes	5.9%	3.8%

Source: U.S. Census Bureau<sup>11,12</sup>

**Figure 4: Housing Age in Eagle County**

Source: U.S. Census Bureau<sup>13</sup>

## Housing Crisis

Eagle County is a highly desirable area to visit and live in, with premier ski resorts and abundant public land for recreation. However, the cost of housing in Eagle County has increased dramatically over the last decade because of low interest rates on secondary properties and increases in short-term rental properties. The lack of available and affordable workforce housing has caused many employers to have unfilled positions. Those working in Eagle County often have to pay high rents, work multiple jobs, or commute into the county from other areas.<sup>14</sup>

11 United States Census Bureau. "2021 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov/>.

12 United States Census Bureau. "2021 Census Bureau American Community Survey: DP02: Selected Social Characteristics in the United States." <https://data.census.gov/>.

13 United States Census Bureau. "2021 Census Bureau American Community Survey: DP04: Selected Housing Characteristics." <https://data.census.gov/>.

14 Eagle County. December 2023. "Eagle County Community Wildfire Protection Plan". [https://csfs.colostate.edu/wp-content/uploads/2023/12/Community\\_Wildfire\\_Protection\\_Plan-ECFinal.pdf](https://csfs.colostate.edu/wp-content/uploads/2023/12/Community_Wildfire_Protection_Plan-ECFinal.pdf).

## Employment and Economics

The U.S. Census Bureau provides information related to employment and economic indicators. Low-income populations and the unemployed may be more vulnerable to certain hazards like flooding and severe winter weather. Additional employment and economic information broken down by community can be found in *Appendix C*.

**Table 9: Vulnerable Employment & Economic Characteristics**

Employment and Economic Characteristics	Eagle County	State of Colorado
Percent of People Living Below the Poverty Line	9.2%	9.6%
Median Household Income	\$91,338	\$80,184
Unemployment Rate	3.9%	4.6%

Source: U.S. Census Bureau<sup>15</sup>

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15 United States Census Bureau. "2021 Census Bureau American Community Survey: DP03: Selected Economic Characteristics." <https://data.census.gov/>.

# Section Four: Planning Process Summary

## Introduction

The process utilized to develop a hazard mitigation plan is often as important as the final planning document. For this planning process, Eagle County adapted the four-step hazard mitigation planning process outlined by FEMA to fit the needs of the participating jurisdictions. The following pages give a summary of the planning process that took place during the plan update.

### FEMA Planning Process Requirements

**Requirement §201.6(b):** Planning process. An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

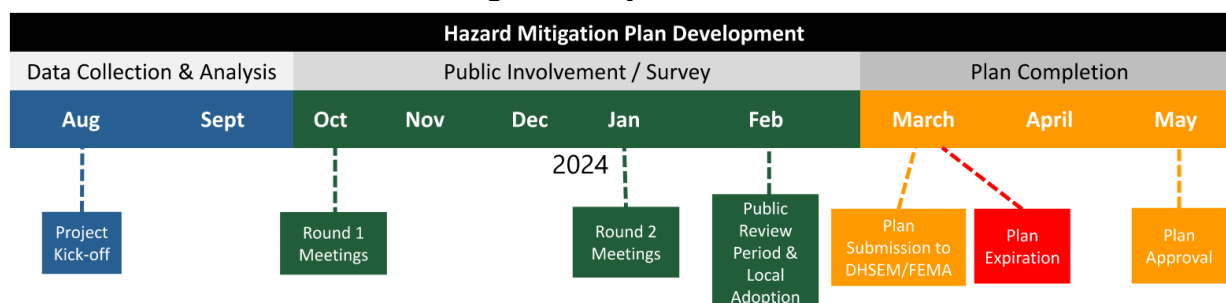
- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
- (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

**Requirement §201.6(c)(1):** The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

## Plan Update Process

Once Eagle County was awarded a FEMA grant for their hazard mitigation plan update, JEO Consulting Group, Inc. was contracted to assist, guide, and facilitate the planning process and plan assembly. To start the project, a meeting was held between Eagle County staff and JEO Consulting Group, Inc. to discuss the planning process and a general schedule for the plan update (Figure 5).

Figure 5: Project Timeline



To be a participant in the development of this plan update, jurisdictions were required to have, at a minimum, one representative present at the Round 1 or Round 2 meetings, view meeting recordings, or attend a follow-up meeting with either JEO Consulting Group, Inc. or Eagle County.

### **Round 1 Meetings: Hazard Identification & Plan Integration**

The intent of the Round 1 Meeting was to familiarize jurisdictional representatives (i.e., the local planning teams), stakeholders, and the public with the plan update process, expected actions for the coming months, the responsibilities of being a participant, and to collect preliminary information to update the plan. After the meeting the attendees conducted risk and vulnerability assessments based on local capabilities, previous occurrences of hazards, and potential exposure. In addition, local planning team members evaluated potential integration of the hazard mitigation plan alongside other local planning mechanisms.

The Round 1 Meeting was held as hybrid a meeting where participants, stakeholders, and the public could either join in-person or online via Google Meets. The meeting was held on Monday October 2, 2023, at the Eagle County Building Emergency Operations Center from 10:00am to 11:30am. Virtual and in-person sign-in sheets can be found in *Appendix B*.

### **Round 2 Meetings: Mitigation Strategies, National Flood Insurance Program, & Plan Maintenance**

Round 2 Meetings are designed to identify and prioritize new mitigation measures, update previous mitigation actions from the 2019 hazard mitigation plan, update National Flood Insurance Program information, and identify when the plan would be reviewed and by whom. Attendees were also asked to review the information collected from the Round 1 meeting related to their jurisdiction through this planning process for accuracy.

The Round 2 Meeting was held as hybrid a meeting where participants, stakeholders, and the public could either join in-person or online via Google Meets. The meeting was held on Wednesday January 17, 2024, at the Eagle County Building Emergency Operations Center from 10:30am to 11:30am. Virtual and in-person sign-in sheets can be found in *Appendix B*.

### **Public Review**

Once the hazard mitigation plan draft was completed, a public review period was opened to allow local planning teams and community members at large to review the plan, provide comments, and request changes. The public review period was open from February 28, 2024, through March 13, 2024. Participating jurisdictions were emailed a notification of this public review period. A link to the draft plan was also made available on the county's website ([https://www.eaglecounty.us/departments\\_services/emergency\\_management/emergency\\_plans.php](https://www.eaglecounty.us/departments_services/emergency_management/emergency_plans.php)). Jurisdictions and the public could provide comments via mail or email. A review of the comments and who they were from can be found in *Appendix B*. All changes and comments were reviewed incorporated into the plan as applicable.

### **Plan Adoption**

Based on FEMA requirements, this multi-jurisdictional hazard mitigation plan must be formally adopted by each participant through approval of a resolution. This approval will create individual ownership of the plan by each participant. Formal adoption provides evidence of a participant's full commitment to implement the plan's goals, objectives, and action items. A copy of the resolution draft provided to participating jurisdictions is located in *Appendix B* along with any copies adoption resolutions that have already been received.

**FEMA Plan Adoption Requirement**

**Requirement §201.6(c)(5):** For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

**Stakeholder and Public Involvement**

To notify and engage the public in the planning process, a wide range of stakeholder groups, State of Colorado agencies, neighboring jurisdictions, and the general public were contacted and encouraged to participate in the plan update. Lists of the notified stakeholders, agencies, and neighboring jurisdictions can be found in *Appendix B*.

The Eagle County Planning Team was asked to identify any underserved communities or vulnerable populations in the planning area not already identified, so they could have the opportunity to be involved in the planning process. The planning team identified individuals and families where Spanish is the primary language spoken. To include this group, the public survey was made available in Spanish and the project website was also made available in Spanish.

**Stakeholder Groups**

There were 37 stakeholder groups that were identified and emailed invitations to participate in the planning process by attending meetings. Climax Molybdenum, Vail Mountain School, Stone Creek Charter School, Arrowhead Metro District, Lake Creek Metro District, Reudi Shores Metro District, Timber Springs Metro, Holland Creek Metro District, Red Sky Ranch Metro District, Two Rivers Metro District, Bachelor Gulch Metro District, and Buckhorn Valley Metro District attended meetings. Vail Mountain School returned information about their prioritized hazards of concern. Those hazards and reasons they were selected as a prioritized hazard are given below.

- **Avalanche:** Vail Mountain School is concerned with avalanches because they threaten backcountry school programming and experiential education, risk of injury to students and staff, blocked transportation routes, and damage to the school building.
- **Drought:** Direct impacts on the school are unlikely, however, drought can have a large impact on the local ski and recreation economy. This can have a trickle-down effect on the school budget and student population. Drought also increases the likelihood of wildfires.
- **Landslides:** Vail Mountain School is concerned with landslides because of the risk of injury to students and staff, blocked transportation routes, disruption of services, and damage to the school building.
- **Severe Winter Weather:** Vail Mountain School is concerned with severe winter weather's ability to cause injuries, blocked transportation routes, and disruption of services. As the only route through Dowd Junction and over Vail Pass, the school is interrupted when severe weather closes Interstate 70.
- **Wildfire:** Vail Mountain School is concerned with a wildfire impacting families causing them to leave the area. Wildfire could also damage the school and cause a long-term disruption in operations and school programming.



### **State of Colorado Agencies**

To comply with the additional State of Colorado plan requirements various state agencies were contacted and emailed invitations to participate in the planning process by attending meetings or reviewing the draft plan. Representatives from Colorado Department of Transportation, Colorado Department of Natural Resources, and Colorado Division of Homeland Security and Emergency Management attended the public meetings.

### **Neighboring Jurisdictions**

Neighboring jurisdictions were notified and invited to participate in the planning process by attending meetings. A representative from Summit County and the City of Leadville attended the Round 1 Meeting. No comments or revisions were received from any neighboring jurisdictions.

### **Public Survey**

The general public was encouraged to participate in the planning process through a public survey that was available online and by hard copy in both English and Spanish. The survey was shared with the public using the county's website, social media posts, and direct contacts. Copies of the survey along with outreach documentation can be found in *Appendix B*. The purpose of the survey was to collect specific concerns related to hazards and projects the public have a vested interest in. It was available beginning after the Round 1 meeting and closing a week prior to the Round 2 meeting. In total there were 92 total responses to the survey from members of the public with a majority (40/92) coming from the Town of Gypsum.

Results of the public survey were shared with participating jurisdictions during the Round 2 meeting. These results helped influence hazard prioritization and mitigation actions selected by local planning teams. The public survey could also be used by participating jurisdictions to determine needed capabilities and future outreach preferences.

The most commonly experienced hazard events for residents included wildfire, severe winter weather, and lightning. This was similar to the ranked level of concern for hazard events, with one major difference, drought. The top hazards of concern included: wildfire, drought and severe winter weather. Wildfire fuels reduction and early warning systems were the most popular mitigation projects of importance for the public. The full results of the public survey can be found in *Appendix B*.

# Section Five: Risk Assessment Summary

## Introduction

The ultimate purpose of this hazard mitigation plan is to minimize the loss of life and property across Eagle County due to natural and human-caused hazards. The basis for the planning process is the county and local risk assessment. This section contains a summary of potential hazards, county vulnerabilities and exposures, probability of future occurrences, and potential impacts and losses. By conducting a county and local risk assessment, participating jurisdictions can develop specific strategies to address areas of concern identified through this process. This section is meant to provide a summary of the risk assessment for Eagle County. The full risk assessment can be found in *Appendix A*.

## Hazard Identification

The identification of relevant hazards for Eagle County began with a review of the Colorado Enhanced State Hazard Mitigation Plan 2023-2028. The Eagle County Planning Team reviewed, discussed, and determined the list of hazards to be profiled in this hazard mitigation plan update. It was decided that the hazards addressed in the 2019 Hazard Mitigation Plan were still applicable and would be used for this plan update. Two hazards were added to the plan: intentional attack and transportation incidents. The hazards for which a risk assessment was completed are listed below.

**Table 10: Hazards Addressed in the Plan**

Hazards Addressed in the Plan		
Avalanche	Landslides	Transportation Incidents
Drought	Lightning	Wildfire
Floods	Severe Wind	
Intentional Attack	Severe Winter Weather	

Hazards identified in the Colorado Enhanced State Hazard Mitigation Plan 2023 - 2028 that were not identified in the Eagle County Hazard Mitigation Plan update include the following list.<sup>16</sup>

- Animal Disease Outbreak
- Earthquake
- Erosion / Deposition
- Expansive Soils
- Extreme Heat
- Ground Subsidence
- Pandemic
- Hail
- Pest Infestation
- Tornado

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<sup>16</sup> Colorado Division of Homeland Security & Emergency Management. 2023. "Colorado Enhanced State Hazard Mitigation Plan 2023-2028". <https://drive.google.com/file/d/1MPL0Qiy-yZYDIMziTvYkR12s35FzG-G8/view>.

These hazards were reviewed by Eagle County and were chosen to not be included in this plan due to a variety of reasons including either a lack of historical events/impacts, discussion/inclusion in already identified hazards, posing minimal risk to Eagle County, or would be better addressed in other planning documents or mechanisms.

## Hazard Assessment Summary Tables

The following table provides an overview of the data contained in the hazard profiles. This table is intended to be a quick reference for people using the plan. There are five main pieces of data used within these tables.

- **Property and Crop Damage in Dollars:** This is the total dollar amount of all property damage and crop damage as recorded in federal, state, and local data sources. The limitation to these data sources is that dollar figures usually are estimates and often do not include all damages from every event, but only officially recorded damages from reported events.
- **Total Years of Record:** This is the span of years there is data available for recorded events.
- **Number of Hazard Events:** This shows how often an event occurs. The frequency of a hazard event will affect how a community responds. Severe winter weather may not cause much damage each time, but multiple storms can have an incremental effect on housing and utilities. In contrast, severe wind can have a widespread effect on a community.
- **Annual probability:** This can be calculated based on the total years of record and the total number of years in which an event occurred. An example of the annual probability estimate is found below:

$$\text{Annual Probability (\%)} = \frac{\text{Total Years with an Event Occuring (\#)}}{\text{Total Years of Record (\#)}} \times 100$$

The following table provides loss estimates for hazards with sufficient data. Detailed descriptions of major events are included in *Appendix A* and *Section Eight*. It should be noted that National Centers for Environmental Information (NCEI) data are not all inclusive and the database provides very limited information on crop losses. To provide a better picture of the crop losses associated with the hazards within Eagle County, crop loss information provided by the Spatial Hazard Events and Losses Database for the United States (SHELDUS) was utilized for this update of the plan. Data for all the hazards are not always available, so only those with an available dataset are included in the loss estimation.

**Table 11: Loss Estimation for Eagle County**

Hazard Type		Number of Events	Property Damage <sup>1</sup>	Crop Damage <sup>2</sup>
<b>Avalanche<sup>11</sup></b>		14	N/A	N/A
<b>Drought<sup>5</sup></b>		551 out of 1,545 Months	\$0	\$943,396
<b>Floods</b>	Flash Flood <sup>1</sup>	22	\$727,500	\$172,414
	Flood <sup>1</sup>	10	\$3,240,000	
	Dam Failure <sup>3</sup>	4	N/A	N/A
<b>Intentional Attack<sup>4</sup></b>		1	\$24,000,000	N/A
<b>Landslides<sup>1</sup></b>		19	\$3,206,000	\$0
<b>Lightning<sup>2</sup></b>		8	\$513,379	\$0
<b>Severe Wind<sup>1</sup></b>	Strong Wind	7	\$35,500	\$9,747
	Thunderstorm Wind	32	\$14,000	
<b>Severe Winter Weather<sup>1</sup></b>	Blizzard	3	N/A	N/A
	Extreme Cold/Wind Chill	1	N/A	
	Heavy Snow	178	N/A	
	Ice Storm	1	N/A	
	Winter Storm	441	N/A	
	Winter Weather	939	N/A	
<b>Transportation Incidents</b>	Auto <sup>7</sup>	14,700	N/A	N/A
	Aviation <sup>8</sup>	49	N/A	
	Rail <sup>9</sup>	30	\$16,421,960	
	Hazardous Materials Release <sup>10,12</sup>	87	\$1,044,567	
<b>Wildfire<sup>6</sup></b>		1,447	\$14,030,000	\$0
<b>Total</b>		<b>17,993</b>	<b>\$63,232,906</b>	<b>\$1,125,557</b>

1 – NCEI, 1996 – May 2023<sup>17</sup>2 – SHEL DUS, 1960 – 2021<sup>18</sup>3 – Stanford University, 1890 – September 2023<sup>19</sup>4 – University of Maryland, 1970-2020.<sup>20</sup> Eagle County Planning Team5 – NCEI, 1895 – September 2023<sup>21</sup>6 – U.S. Forest Service, 1992 – 2020<sup>22</sup>

17 National Centers for Environmental Information. May 2023. "Storm Events Database".

<https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=8%2CCOLORADO>.

18 Arizona State University. 2021. "Spatial Hazard Events and Losses Database for the United States".

<https://sheldus.asu.edu/SHEL DUS/>.

19 Stanford University. September 2023. "National Performance of Dams Program: Dam Incident Database."

[http://npdp.stanford.edu/dam\\_incidents](http://npdp.stanford.edu/dam_incidents).20 University of Maryland and National Consortium for the Study of Terrorism and Response to Terrorism. 1970-2020. "Global Terrorism Database". <https://www.start.umd.edu/gtd/>.

21 National Centers for Environmental Information. 1895-Sept 2023. "County Time Series".

[https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series/CO-037/pdsi/all/9/1895-2023?base\\_prd=true&begbaseyear=1901&endbaseyear=2000](https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series/CO-037/pdsi/all/9/1895-2023?base_prd=true&begbaseyear=1901&endbaseyear=2000).

22 U.S. Forest Service. 2022. "Spatial Wildfire Occurrence Data for the United States, 1992-2020".

<https://www.fs.usda.gov/rds/archive/catalog/RDS-2013-0009.6>.

## Section Five | Risk Assessment Summary

7 – Colorado Department of Transportation, 2010 – 2022<sup>23</sup>

8 – National Transportation Safety Board, 1962 – September 2023<sup>24</sup>

9 – Federal Railroad Administration, 1975 – July 2023<sup>25</sup>

10 – Pipeline and Hazardous Materials Safety Administration, 1971 – 2022<sup>26</sup>

11 – Colorado Avalanche Information Center, 2010 – 2023<sup>27</sup>

12 – Colorado State Patrol, 2013 – 2023<sup>28</sup>

**Table 12: County Risk Assessment**

Hazard	Previous Occurrence Events/Years of Record	Approximate Annual Probability	Likely Extent
<b>Avalanche<sup>11</sup></b>	10/14	71%	D1-D5
<b>Drought<sup>5</sup></b>	551/1,545 months	36%	D1-D4
<b>Floods<sup>1,3</sup></b>	Floods: 19/27 Dam Failure: 4/133	Floods: 70% Dam Failure: 3%	Some inundation of structures (5% of structures) and roads near streams. Some evacuations of people may be necessary
<b>Intentional Attack<sup>4</sup></b>	1/51	2%	Varies by event
<b>Landslides<sup>1</sup></b>	11/27	41%	Varies by event
<b>Lightning<sup>2</sup></b>	61/61	100%	Varies by event
<b>Severe Wind<sup>1</sup></b>	13/27	48%	Avg: 65 mph Range: 52-92 mph
<b>Severe Winter Weather<sup>1</sup></b>	27/27	100%	15°-30° below zero (wind chill) 2-24" snow
<b>Transportation Incidents<sup>7,8,9,10,12</sup></b>	Auto: 13/13 Aviation: 33/61 Rail: 20/48 Hazardous Material Release: 11/11	Auto: 100% Aviation: 54% Rail: 42% Hazardous Material Release: 100%	Varies by event
<b>Wildfire<sup>6</sup></b>	1,447/29	100%	Avg 28.4 acres Homes and structures in the WUI at risk

1 – NCEI, 1996 – May 2023<sup>29</sup>

2 – SHELDUS, 1960 – 2021<sup>30</sup>

3 – Stanford University, 1890 – September 2023<sup>31</sup>

23 Colorado Department of Transportation. 2010-2022. "Colorado Crash Data Dashboard".

[https://tableau.state.co.us/t/CDOT/views/CDOTCrashSummaryAVtestver2\\_0/StatewideSummary?%3Aorigin=card\\_share&link&%3Aembed=y&%3AisGuestRedirectFromVizportal=y](https://tableau.state.co.us/t/CDOT/views/CDOTCrashSummaryAVtestver2_0/StatewideSummary?%3Aorigin=card_share&link&%3Aembed=y&%3AisGuestRedirectFromVizportal=y).

24 National Transportation Safety Board. 1962-September 2023. "Aviation Accident Database".

<https://www.nts.gov/Pages/AviationQueryV2.aspx>.

25 Federal Railroad Administration. 1975-July 2023. "Summary of Train Accidents with Reportable Damage, Casualties, and Major Causes". <https://safetydata.fra.dot.gov/OfficeofSafety/publicsite/query/TrainAccidentDamage.aspx>.

26 Pipeline and Hazardous Materials Safety Administration. 1971-2022. "Incident Statistics: Colorado".

<https://www.phmsa.dot.gov/hazmat-program-management-data-and-statistics/data-operations/incident-statistics>.

27 Colorado Avalanche Information Center. 2023. "Colorado Avalanche Accidents".

<https://avalanche.state.co.us/accidents/colorado>.

28 Colorado State Patrol. 2013-2023. Direct Communication.

29 National Centers for Environmental Information. May 2023. "Storm Events Database".

<https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=8%2CCOLORADO>.

30 Arizona State University. 2021. "Spatial Hazard Events and Losses Database for the United States".

<https://sheldus.asu.edu/SHELDUS/>.

31 Stanford University. September 2023. "National Performance of Dams Program: Dam Incident Database."

[http://npdp.stanford.edu/dam\\_incidents](http://npdp.stanford.edu/dam_incidents).

- 4 – University of Maryland, 1970-2020.<sup>32</sup> Eagle County Planning Team  
 5 – NCEI, 1895 – September 2023<sup>33</sup>  
 6 – U.S. Forest Service, 1992 – 2020<sup>34</sup>  
 7 – Colorado Department of Transportation, 2010 – 2022<sup>35</sup>  
 8 – National Transportation Safety Board, 1962 – September 2023<sup>36</sup>  
 9 – Federal Railroad Administration, 1975 – July 2023<sup>37</sup>  
 10 – Pipeline and Hazardous Materials Safety Administration, 1971 – 2022<sup>38</sup>  
 11 – Colorado Avalanche Information Center, 2010 – 2023<sup>39</sup>  
 12 – Colorado State Patrol, 2013 – 2023<sup>40</sup>

## FEMA National Risk Index

FEMA's National Risk Index is an online tool that analyzes natural hazard and community risk factors to develop a risk measurement for each county in the United States. Eighteen natural hazards are given a score from very high to very low. The table below gives the National Risk Index ratings for Eagle County. Risk Index scores are calculated using an equation that combines scores for expected annual loss, social vulnerability, and community resilience. All values fall between 0 (lowest possible value) and 100 (highest possible value).

**Table 13: National Risk Index**

Hazard	Eagle County
<b>Avalanche</b>	Very High (94.7)
<b>Coastal Flooding</b>	Not Applicable
<b>Cold Wave</b>	Very Low (27.9)
<b>Drought</b>	Very Low (22.2)
<b>Earthquake</b>	Very Low (60.0)
<b>Hail</b>	Relatively Low (69.0)
<b>Heat Wave</b>	No Rating (0.0)
<b>Hurricane</b>	Not Applicable
<b>Ice Storm</b>	Relatively Low (49.3)
<b>Landslide</b>	Relatively Moderate (94.7)
<b>Lightning</b>	Relatively Moderate (83.5)
<b>Riverine Flooding</b>	Relatively Low (50.6)
<b>Strong Wind</b>	Very Low (3.6)
<b>Tornado</b>	Very Low (16.0)
<b>Tsunami</b>	Not Applicable
<b>Volcanic Activity</b>	Not Applicable

32 University of Maryland and National Consortium for the Study of Terrorism and Response to Terrorism. 1970-2020. "Global Terrorism Database". <https://www.start.umd.edu/gtd/>.

33 National Centers for Environmental Information. 1895-Sept 2023. "County Time Series". [https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series/CO-037/pdsi/all/9/1895-2023?base\\_prd=true&begbaseyear=1901&endbaseyear=2000](https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/county/time-series/CO-037/pdsi/all/9/1895-2023?base_prd=true&begbaseyear=1901&endbaseyear=2000).

34 U.S. Forest Service. 2022. "Spatial Wildfire Occurrence Data for the United States, 1992-2020". <https://www.fs.usda.gov/rds/archive/catalog/RDS-2013-0009.6>.

35 Colorado Department of Transportation. 2010-2022. "Colorado Crash Data Dashboard". [https://tableau.state.co.us/t/CDOT/views/CDOTCrashSummaryAVtestver2\\_0/StatewideSummary?%3Aorigin=card\\_share\\_link&%3Aembed=y&%3AisGuestRedirectFromVizportal=y](https://tableau.state.co.us/t/CDOT/views/CDOTCrashSummaryAVtestver2_0/StatewideSummary?%3Aorigin=card_share_link&%3Aembed=y&%3AisGuestRedirectFromVizportal=y).

36 National Transportation Safety Board. 1962-September 2023. "Aviation Accident Database". <https://www.nts.gov/Pages/AviationQueryV2.aspx>.

37 Federal Railroad Administration. 1975-July 2023. "Summary of Train Accidents with Reportable Damage, Casualties, and Major Causes". <https://safetydata.fra.dot.gov/OfficeofSafety/publicsite/query/TrainAccidentDamage.aspx>.

38 Pipeline and Hazardous Materials Safety Administration. 1971-2022. "Incident Statistics: Colorado". <https://www.phmsa.dot.gov/hazmat-program-management-data-and-statistics/data-operations/incident-statistics>.

39 Colorado Avalanche Information Center. 2023. "Colorado Avalanche Accidents". <https://avalanche.state.co.us/accidents/colorado>.

40 Colorado State Patrol. 2013-2023. Direct Communication.

Hazard	Eagle County
Wildfire	Relatively Low (65.0)
Winter Weather	Very Low (4.0)
Overall Score	Very Low (32.01)

Source: FEMA<sup>41</sup>

## Historical Disaster Declarations

### Presidential Disaster Declarations

Presidential disaster declarations by county are available via FEMA from 1953 to October 2023. The following table describes the presidential disaster declarations within the county for the period of record. Eagle County has received nine presidential disaster declarations.

Table 14: Presidential Disaster Declarations

Disaster Declaration Number	Declaration Date	Title	Incident Type
719	7/27/1984	Severe Storms, Mudslides, Landslides & Flooding	Flood
1421	6/19/2002	Wildfires	Fire
2457	7/31/2002	CO – Panorama Fire	Fire
3025	1/29/1977	Drought	Drought
3224	9/5/2005	Hurricane Katrina Evacuation	Coastal Storm
3436	3/13/2020	Covid-19	Biological
4498	3/28/2020	Covid-19 Pandemic	Biological
5249	7/4/2018	Lake Christine Fire	Fire
5334	8/19/2020	Grizzly Creek Fire	Fire

Source: Federal Emergency Management Agency, 1953-October 2023<sup>42</sup>

### USDA Secretarial Disasters

Several U.S. Department of Agriculture Secretarial Disasters for Eagle County have occurred since 2012. Table 15 lists these disaster events. All of the disasters were for drought.

Table 15: USDA Secretarial Disasters (2012-2023)

Year	Type	Declaration Number
2012	Drought	S3260
2013	Drought	S3456
2013	Drought	S3548
2013	Drought	S3575
2018	Drought	S4336
2018	Drought	S4352
2018	Drought	S4386
2019	Drought	S4468
2019	Drought	S4481
2020	Drought	S4648
2020	Drought	S4755

41 FEMA. "The National Risk Index". Accessed September 2023. <https://hazards.fema.gov/nri/map>.

42 Federal Emergency Management Agency. October 2023. "Disaster Declarations". <https://www.fema.gov/openfema-data-page/disaster-declarations-summaries-v2>.



Year	Type	Declaration Number
2020	Drought	S4770
2020	Drought	S4775
2021	Drought	S4917
2022	Drought	S5147

Source: U.S. Department of Agriculture, 2003-2021<sup>43</sup>

## Hazard Profiles

Information from participating jurisdictions was collected and reviewed alongside hazard occurrence, magnitude, and event narratives as provided by local, state, and federal databases. Profiles for each identified hazard in the plan were created to examine their risk and potential impact in Eagle County. These full profiles can be found in *Appendix A*. Hazards of local concern or events which have deviated from the norm are discussed in greater detail in each respective participant profile (see *Section Eight* of this plan).

Local planning teams prioritized hazards of concern from the county hazard list based on historical hazard occurrences, potential impacts, and local capabilities. The table below lists the participants along with their prioritized hazards of concern. It is important to note that while a jurisdiction may not have selected a specific hazard as prioritized, hazard events can impact any jurisdiction at any time and their selection is not a full indication of risk.

**Table 16: Prioritized Hazards of Concern by Jurisdiction**

Jurisdiction	Avalanche	Drought	Floods	Intentional Attack	Landslides	Lightning	Severe Wind	Severe Winter Weather	Transportation Incidents	Wildfire
Eagle County		X	X		X				X	X
Town of Avon		X			X					X
Town of Eagle			X					X		X
Town of Gypsum		X	X					X		X
Town of Minturn	X	X	X					X		X
Town of Red Cliff	X		X		X					X
Town of Vail	X		X		X			X	X	X
Basalt Library District			X							X
Basalt Sanitation District			X			X	X			X
Berry Creek Metro District										X
Cordillera Metro District					X	X		X		X
Eagle County Paramedic Services			X					X		X
Eagle County School District				X				X		X

43 U.S. Department of Agriculture. 2023. "Disaster Designation Information" <https://www.fsa.usda.gov/programs-and-services/disaster-assistance-program/disaster-designation-information/index>.

## Section Five | Risk Assessment Summary

Jurisdiction	Avalanche	Drought	Floods	Intentional Attack	Landslides	Lightning	Severe Wind	Severe Winter Weather	Transportation Incidents	Wildfire
Eagle River Fire Protection District			X					X		X
Eagle River Water & Sanitation District		X	X						X	X
Eagle Vail Metropolitan District		X	X							X
Eagle Valley Library District			X			X				X
Eagle Valley Transportation Authority					X			X	X	X
Greater Eagle Fire Protection District		X	X			X	X	X		X
Gypsum Fire Protection District				X	X	X				X
Mountain Recreation Metropolitan District			X			X	X	X		X
Roaring Fork Fire Rescue Authority						X	X	X		X
Vail Recreation District	X		X			X		X		X

# Section Six: Mitigation Strategy

## Introduction

The primary focus of the mitigation strategy is to identify action items to reduce the effects of hazards on existing infrastructure and property based on the established goals and objectives of the hazard mitigation plan. These actions should consider the most cost effective and technically feasible options to address risk.

### FEMA Mitigation Strategy Requirements

**Requirement §201.6(c)(3)(i):** [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

**Requirement §201.6(c)(3)(ii):** [The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

**Requirement: §201.6(c)(3)(ii):** [The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program, and continued compliance with NFIP requirements, as appropriate.

**Requirement: §201.6(c)(3)(iii):** [The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

**Requirement §201.6(c)(3)(iv):** For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

## Summary of Changes

The development of the mitigation strategy for this plan update includes the addition of new mitigation actions, updated status or removal of past mitigation actions, and revisions to kept action descriptions for consistency across Eagle County.

## Selected Mitigation and Strategic Actions

After establishing the goals, the local planning teams evaluated mitigation and strategic actions. These actions included: the mitigation and strategic actions identified by each participating jurisdiction in the previous plan and additional actions discussed during the update planning process. The Eagle County Planning Team provided each participant a link to the FEMA Mitigation Ideas document to be used as a starting point to review a wide range of potential mitigation actions. Participants were also encouraged to think of actions that may need FEMA grant assistance and to review their hazard prioritization section for potential mitigation and strategic actions. Members of the Eagle County Planning Team were also available to help local jurisdictions identify additional action alternatives. These suggestions helped participants determine which actions would best assist their respective jurisdiction in alleviating damage in the event of a disaster.

During the update of previous identified actions and the identification of new actions, local planning teams prioritized each identified mitigation and strategic action as high, medium, or low. The listed priority rating does not indicate which actions will be implemented first. Generally, high priority actions either address a major concern for the jurisdiction, have few to no challenges in implementation, and/or garner large support from the public and administration. Low priority actions either address a minor concern for the jurisdiction, have many challenges in implementation, and/or may not have support from the public or administration at this time. Medium priority actions may only have one or two of the items listed above. A mitigation and strategic action's priority may change very quickly as circumstances change.

The mitigation and strategic actions are the core of a hazard mitigation plan. The local planning teams were instructed that each hazard identified in the plan must have an action that addresses it. Mitigation and strategic actions were evaluated based on referencing the community's risk assessment and capability assessment. Jurisdictions were encouraged to choose actions that were realistic and relevant to the concerns identified.

It is important to note that not all the mitigation and strategic actions identified by a jurisdiction may ultimately be implemented due to limited capabilities, prohibitive costs, low benefit-cost ratio, or other concerns. These factors may not be identified during this planning process. Additionally, some jurisdictions may identify and pursue additional mitigation actions not identified in this hazard mitigation plan.

### Participant Mitigation Actions

Mitigation actions identified by participants of the HMP are found in the Mitigation and Strategic Actions Matrix in *Appendix D*. Additional information about selected actions can be found in the participant profiles in *Section Eight*. Each action includes the following information in the respective community profile.

- **Action:** General title of the action item.
- **Description:** Brief summary of what the action item(s) will accomplish.
- **Hazard(s) Addressed:** Which hazard the mitigation action aims to address.
- **Estimated Cost:** General cost estimate for implementing the mitigation action for the appropriate jurisdiction.
- **Local Funding:** A list of any potential local funding mechanisms to fund the action.
- **Timeline:** General timeline as established by planning participants.
- **Priority:** General description of the importance and workability in which an action may be implemented (high/medium/low).
- **Lead agency:** Listing of agencies or departments which may lead or oversee the implementation of the action item.
- **Status:** A description of what has been done, if anything, to implement the action item.

Implementation of the actions will vary between individual plan participants based upon the availability of existing information; funding opportunities and limitations; and administrative capabilities of communities. Establishing a cost-benefit analysis is beyond the scope of this plan and could potentially be completed prior to submittal of a project grant application or as part of a five-year update. Completed, removed, kept, and new mitigation actions for each participating jurisdiction can be found in *Section Eight*.

# Section Seven: Plan Implementation and Maintenance

## Monitoring, Evaluating, and Updating the Plan

Each participating jurisdiction in the Eagle County Hazard Mitigation Plan will be responsible for monitoring, evaluating, and updating the plan during its five-year lifespan. Hazard mitigation projects will be prioritized by each participant's governing body with support and suggestions from the public and business owners. Each local planning team will be responsible for plan maintenance, the frequency of review, and how the public will be involved. This information can be found in each participant's profile under the Local Planning Team section. During the review, the local planning team can report on the status of projects and include which implementation processes worked well, any difficulties encountered, how coordination efforts are proceeding, and which strategies could be revised.

### FEMA Plan Maintenance and Update Requirements

**Requirement §201.6(c)(4)(i):** [The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

**Requirement §201.6(c)(4)(ii):** [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

**Requirement §201.6(c)(4)(iii):** [The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.

In addition, each local planning team will be responsible for ensuring that the plan's goals are incorporated into applicable revisions of their jurisdiction's relevant planning documents. The hazard mitigation plan will also consider any changes in planning documents and incorporate the information accordingly in its next update. *Appendix F* may also be used to assist with plan updates.

The FEMA required update of this plan will occur at least every five years, to reduce the risk of the plan expiring. Updates may be incorporated more frequently, especially in the event of a major hazard. Eagle County will start meetings to discuss mitigation plan updates at least nine months prior to the deadline for completing the plan update. The Eagle County Emergency Management Department will review the goals and objectives of the previous plan and evaluate them to determine whether they are still pertinent and current. Among other questions, they may want to consider the following.

- Do the goals and objectives address current and expected conditions?
- If any of the recommended projects have been completed, did they have the desired impact on the goal for which they were identified? If not, what was the reason it was not

successful (lack of funds/resources, lack of political/popular support, underestimation of the amount of time needed, etc.)?

- Have either the nature, magnitude, and/or type of risks changed?
- Are there implementation problems?
- Are current resources appropriate to implement the plan?
- Were the outcomes as expected?
- Did the plan partners participate as originally planned?
- Are there other agencies which should be included in the revision process?

If deemed necessary, a private consulting firm or individual will be hired to help facilitate the plan update process.

### Continued Public Involvement

To ensure continued plan support and input from the public and stakeholders, public involvement should remain a top priority for each participating jurisdiction. Every participant identified ways the public will be involved in the update process including the following.

- Social Media
- Websites
- Board/Council Meetings
- Meeting Minutes
- Email
- Homeowner Association Meetings
- Stakeholder Meetings
- Press Releases
- Newsletters

### Unforeseen Opportunities

If new, innovative mitigation options arise that could impact Eagle County or elements of this plan, which are determined to be of importance, a plan amendment may be proposed and considered separate from the annual review and other proposed plan amendments. Eagle County, as the plan sponsor, provides an opportunity for jurisdictions to compile proposed amendments and send them to the Colorado Division of Homeland Security and Emergency Management, and subsequently to FEMA, for a plan amendment. Such amendments should include all applicable information for each proposal including description of changes, identified funding, responsible agencies, etc.

### Incorporation into Existing Planning Mechanisms

The Eagle County Planning Team utilized a variety of plan integration tools to help communities determine how their existing planning mechanisms were related to the Hazard Mitigation Plan. Utilizing FEMA's *Integrating the Local Natural Hazard Mitigation Plan into a Community's Comprehensive Plan*<sup>44</sup> guidance, as well as FEMA's *2015 Plan Integration*<sup>45</sup> guide, each jurisdiction engaged in a plan integration discussion. This discussion was facilitated by a Plan

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44 Federal Emergency Management Agency. November 2013. "FEMA Region X Integrating the Local Natural Hazard Mitigation Plan into a Community's Comprehensive Plan". <https://www.fema.gov/sites/default/files/2020-07/integrating-hazard-mitigation-local-plan.pdf>.

45 Federal Emergency Management Agency. July 2015. "Plan Integration: Linking Local Planning Efforts." [https://www.fema.gov/sites/default/files/2020-06/fema-plan-integration\\_7-1-2015.pdf](https://www.fema.gov/sites/default/files/2020-06/fema-plan-integration_7-1-2015.pdf).



Integration Worksheet or set of questions, created by the Eagle County Planning Team. This offered an easy way for participants to notify the Eagle County Planning Team of existing planning mechanisms, and if they interface with the hazard mitigation plan.

Each jurisdiction referenced all relevant existing planning mechanisms and provided information on how these did or did not address hazards and vulnerability. Summaries of plan integration are found in each individual *Participant Profile*. For jurisdictions that lack existing planning mechanisms, especially smaller communities, the plan may be used as a guide for future activity and development in the jurisdiction.

**Figure 6: First Responders at an Emergency Incident**



Source: Eagle County

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# Section Eight: Participant Profiles

## Purpose of Participant Profiles

Participant profiles contain information specific to jurisdictions participating in the Eagle County Hazard Mitigation Plan planning effort. Participant profiles were developed with the intention of highlighting each jurisdiction's unique characteristics that affect its vulnerability to hazards. These profiles may serve as a short reference of identified vulnerabilities and mitigation actions for a jurisdiction as they implement the mitigation plan. Information from individual jurisdictions was collected at public and one-on-one meetings and used to establish their section of the plan. Participant profiles may include the following elements:

- Location Map
- Local Planning Team
- Capability Assessment
- Plans and Studies
- Future Development Trends
- Community Lifelines
- Hazard Prioritization and Mitigation Strategy

Individual participant profiles can be found in the *Eagle County and Community Appendix* or *Special Districts Appendix*. The location of the profiles is given below.

### Eagle County and Community Appendix

- Eagle County
- Town of Avon
- Town of Eagle
- Town of Gypsum
- Town of Minturn
- Town of Red Cliff
- Town of Vail

### Special Districts Appendix

- Basalt Library District
- Basalt Sanitation District
- Berry Creek Metro District
- Cordilla Metro District
- Eagle County Paramedic Services
- Eagle County School District
- Eagle River Fire Protection District
- Eagle River Water & Sanitation District
- Eagle Vail Metropolitan District
- Eagle Valley Library District
- Eagle Valley Transportation Authority
- Greater Eagle Fire Protection District
- Gypsum Fire Protection District
- Mountain Recreation Metropolitan District

## Section Eight | Participant Profiles

Roaring Fork Fire Rescue Authority  
Vail Recreation District