Part 3. MITIGATION PLAN

24. MISSION STATEMENT, GOALS AND OBJECTIVES

Hazard mitigation plans must identify goals for reducing long-term vulnerabilities to identified hazards (44 CFR Section 201.6.c(3i)). The Steering Committee established a mission statement, a set of goals and measurable objectives for this update, based on data from the preliminary risk assessment and the results of the public involvement strategy. The mission statement, goals, objectives and actions in this plan all support each other. Goals were selected to support the mission statement. Objectives were selected that met multiple goals. Actions were prioritized based on the action meeting multiple objectives.

24.1 MISSION STATEMENT

A mission statement provides a vision for a process. It is not a goal because it does not describe a hazard mitigation outcome, and it is broader than a hazard-specific objective. The mission statement for the 2022 Ada County Multi-Hazard Mitigation Plan is as follows:

To reduce the vulnerability to natural hazards in order to protect the health, safety, welfare and economy of the Ada County community.

24.2 GOALS

The following are the mitigation goals for this plan update:

- 1. Protect lives and reduce hazard related injuries
- 2. Minimize or reduce current and future damage from natural hazards to property, including critical facilities and environment
- 3. Encourage the development and implementation of long-term, cost-effective mitigation projects that foster resilience for the whole community
- 4. Maintain, enhance, and restore the natural environment's capacity to deal with the impacts of natural hazard events.
- 5. Improve emergency management preparedness, collaboration, and outreach within the planning area.

Achievement of these goals defines the effectiveness of a mitigation strategy.

24.3 OBJECTIVES

Each selected objective meets multiple goals, serving as a stand-alone measurement of the effectiveness of a mitigation action, rather than as a subset of a goal. The objectives also are used to help establish priorities. The objectives are as follows:

- 1. Minimize disruption of local government and commerce operations caused by the identified hazards.
- 2. Using best available data, science, and knowledge, continually improve understanding of the location and potential impacts of the identified hazards.
- 3. Based on willing participation, encourage retrofit, purchase, or relocation of real property, based on one or more of the following criteria: level of exposure, repetitive loss history, and previous damage from natural hazards.
- 4. Based on understanding of risk, prevent or discourage new development in hazardous areas; if building occurs in high-risk areas, ensure that it is done in such a way as to minimize risk.
- 5. Strengthen codes and code enforcement to ensure that new construction and redevelopment of property and infrastructure can withstand the impacts of hazards.
- 6. Integrate hazard mitigation policies into local government land use plans that not only protect the built environment, but also maintain or enhance the natural environment's ability to withstand and recover from disasters, with an emphasis on the promotion of regional consistency in policy.
- 7. Develop new, and improve existing, early warning emergency notification protocols, systems, and evacuation procedures.
- 8. Perform whole community engagement to educate the public on the area's potential hazards and ways to personally prepare, respond, recover and mitigate the impacts of these events.
- 9. Establish partnerships among all levels of government, the business community, and other stakeholders to improve and implement methods to protect life, property and the natural environment.
- 10. Increase the resilience and continuity of operations of identified critical facilities and infrastructure within the planning area to maintain delivery of essential services to the whole community.

25. MITIGATION BEST PRACTICES

Catalogs of hazard mitigation best practices were developed that present a broad range of alternatives to be considered for use in the planning area, in compliance with 44 CFR (Section 201.6.c.3.ii). These catalogs were developed through a facilitated session with the Steering Committee looking at strengths, weaknesses, obstacles and opportunities within the planning area for each identified hazard of concern. The planning team augmented the catalogs with best practices from state and federal publications as well as experience from past planning efforts. One catalog was developed for each natural hazard of concern evaluated in this plan. The catalogs for each hazard are listed in Table 25-1 through Table 25-8. The catalogs present best practices categorized in two ways:

- By what it would do:
 - Manipulate a hazard
 - Reduce exposure to a hazard
 - Reduce vulnerability to a hazard
 - > Increase the ability to respond to or be prepared for a hazard
- By who would have responsibility for implementation:
 - > Individuals
 - Businesses
 - Government.

Hazard mitigation actions recommended in this plan were selected from among the best practices presented in the catalogs or inspired by a review of the catalogs. The catalogs provide a baseline of mitigation best practices that are backed by a planning process, are consistent with the planning partners' goals and objectives, and are within the capabilities of the partners to implement. Some of these best practices may not be feasible based on the selection criteria identified for this plan. The purpose of the catalog was to equip the planning partners with a list of what could be considered to reduce risk from natural hazards within the planning area. Best practices in the catalog that are not included for the final action plan were not selected for one or more of the following reasons:

- The action is not feasible.
- The action is already being implemented.
- There is an apparently more cost-effective alternative.
- The action does not have public or political support.

Table 25-2. Catalog of Mitigation Alternatives—Drought							
Personal-Scale	Corporate-Scale	Government-Scale					
 Manipulate the hazard: None Reduce exposure: None Reduce vulnerability: Drought-resistant landscapes Reduce water system losses Reduce water system losses Modify plumbing systems (through water saving kits) For homes with on- site water systems: increase storage, utilize rainwater catchment Build local capacity: Practice active water conservation 	 Manipulate the hazard: None Reduce exposure: None Reduce vulnerability: Drought-resistant landscapes Reduce private water system losses Reduce private water system losses Support alternative irrigation techniques to reduce water use and encourage use of climate-sensitive water supplies For businesses with on- site water systems: increase storage, utilize rainwater catchment Build local capacity: Practice active water Practice active water 	 Manipulate the hazard: Groundwater recharge through stormwater management Develop a water recycling program Increase "above-the-dam" regional natural water storage systems Reduce exposure: Identify and create groundwater backup sources Reduce vulnerability: Water use conflict regulations Reduce water system losses Distribute water saving kits increase conventional storage that is filled during high-flow periods Build local capacity: Public education on drought resistance Identify alternative water supplies for times of drought; mutual aid agreements with alternative suppliers Develop drought contingency plan Develop criteria "triggers" for drought-related actions Improve accuracy of water supply forecasts Modify rate structure to influence active water conservation techniques 					
	conservation	risk associated with the drought hazard					

Та	Table 25-4. Catalog of Mitigation Alternatives—Extreme Weather						
Personal-Scale	Corporate-Scale	Government-Scale					
Manipulate the hazard:	Manipulate the	Manipulate the hazard:					
✤ None	hazard:	✤ None					
Reduce exposure:	✤ None	Reduce exposure:					
✤ None	Reduce exposure:	Develop an urban heat island reduction program that includes an					
Reduce vulnerability:	✤ None	urban forest program or plan					
 Insulate house 	• Reduce vulnerability:	Reduce vulnerability:					
Provide redundant heat	 Relocate critical 	Harden infrastructure such as locating utilities underground					
and power	facilities (such as	Trim trees back from power lines					
Insulate structure	power lines)	Designate snow routes and strengthen critical road sections and					
Plant appropriate trees	underground	bridges					
near home and power	Reinforce critical	Build local capacity:					
lines ("Right tree, right	facilities (such as	Support programs such as "Tree Watch" that proactively manage					
place" National Arbor	power lines) to meet	problem areas through use of selective removal of hazardous trees,					
Day Foundation	performance	tree replacement, etc.					
Program)	expectations	Establish and enforce building codes that require all roofs to					
Build local capacity:	 Install tree wire 	withstand snow loads					
 Irim or remove trees that 	• Build local capacity:	 Increase communication alternatives 					
could affect power lines	 Irim or remove trees 	Woodry land use and environmental regulations to support vegetation					
 Promote 72-nour self- sufficiency 	that could affect	Madify landscape and other ordinances to appropriate					
Obtain a NOAA weather	power lines	Notice and other ordinances to encourage appropriate planting near everband newer, apple, and phone lines.					
	 Greate redundancy Equip facilities with a 	Provide NOAA weather radies to the public					
Auto:	✓ Equip racinities with a NOAA woathor radio	 Consider the probable impacts of future climate conditions on the risk. 					
	Fouin vital facilities	 consider the probable impacts of future climate conditions of the fisk associated with the extreme weather hazard 					
generator.	• Equip vital facilities	 Review and undate heat response plan in light of future climate 					
	nower sources	condition (heat events) projections					
	power sources.	condition (neat events) projections					

Personal-Scale Manipulate the	Corporate-Scale		
Manipulate the		Governme	ent-Scale
hazard: ↔ Clear storm drains and	 Manipulate the hazard: Clear storm drains and 	 Manipulate the hazard: Maintain drainage system Institute low-impact development techniques on property 	 Facilitate managed retreat from, or upgrade of, the most at-risk areas Require accounting of sea level rise in all applications for new development in
culverts	culverts Use low-impact development techniques Reduce exposure: Locate critical facilities or functions outside hazard 	 Dredging, levee construction, and providing regional retention areas Structural flood control, levees, channelization, or revetments. Stormwater management regulations and master planning Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff Reduce exposure: 	 shoreline areas Implement Assembly Bill 162 (2007) requiring flood hazard information in local general plans Build local capacity: Produce better hazard maps Provide technical information and guidance Enact tools to help manage development in hazard areas (stronger
flood elevation	area ◆ Use low-impact development techniques • Reduce vulnerability: ◆ Puild	 Locate or relocate critical facilities outside of hazard area Acquire or relocate identified repetitive loss properties Promote open space uses in identified high hazard areas via techniques such as: planned unit developments 	 controls, tax incentives, and information) Incorporate retrofitting or replacement of critical system elements in capital improvement plan Develop strategy to take advantage of post-disaster opportunities
 Raise structures above base flood elevation Elevate items within house above base flood elevation Build new homes above base flood elevation Flood-proof structures 	 Build redundancy for critical functions or retrofit critical buildings Provide flood- proofing when new critical facilities must be located in floodplains Build local capacity: Keep cash 	 easements, setbacks, greenways, sensitive area tracks. Adopt land development criteria such as planned unit developments, density transfers, clustering Institute low impact development techniques on property Acquire vacant land or promote open space uses in developing watersheds to control increases in runoff Preserve undeveloped and vulnerable shoreline Restore existing flood control and 	 Warehouse critical infrastructure components Develop and adopt a continuity of operations plan Consider participation in the Community Rating System Maintain and collect data to define risks and vulnerability Train emergency responders Create an elevation inventory of structures in the floodplain Develop and implement a public information strategy
 Build local capacity: Buy flood insurance Develop household plan, such as retrofit savings, communication with outside, 72-hour self- sufficiency during and after an event 	 reserves for reconstruction Support and implement hazard disclosure for sale of property in risk zones. Solicit cost- sharing through partnerships with others on projects with multiple benefits. 	 riparian corridors Reduce vulnerability: Harden infrastructure, bridge replacement program Provide redundancy for critical functions and infrastructure Adopt regulatory standards such as freeboard standards, cumulative substantial improvement or damage, lower substantial damage threshold; compensatory storage, non- conversion deed restrictions. Stormwater management regulations and master planning. Adopt "no-adverse impact" floodplain management policies that strive to not increase the flood risk on downstream communities 	 Charge a hazard mitigation fee Integrate floodplain management policies into other planning mechanisms within the planning area. Consider the probable impacts of future climate conditions on the risk associated with the flood hazard Consider the residual risk associated with structural flood control in future land use decisions Enforce National Flood Insurance Program requirements Adopt a Stormwater Management Master Plan Develop an adaptive management plan to address the long-term impacts of sea level rise

Table 25-6. Catalog of Mitigation Alternatives—Landslide							
Personal-Scale	Corporate-Scale	Government-Scale					
 Manipulate the hazard: Stabilize slope (dewater, armor toe) Reduce weight on top of slope Minimize vegetation removal and the addition of impervious surfaces. Reduce exposure: Locate structures outside of hazard area (off unstable land and away from slide-run out area) Reduce vulnerability: Retrofit home Build local capacity: Institute warning system, and develop evacuation plan Keep cash reserves for reconstruction Educate yourself on risk 	 Manipulate the hazard: Stabilize slope (dewater, armor toe) Reduce weight on top of slope Reduce exposure: Locate structures outside of hazard area (off unstable land and away from sliderun out area) Reduce vulnerability: Retrofit at-risk facilities Build local capacity: Institute warning system, and develop evacuation plan Keep cash reserves for reconstruction Develop a continuity of operations plan Educate employees on the potential exposure to 	 Manipulate the hazard: Stabilize slope (dewater, armor toe) Reduce weight on top of slope Reduce exposure: Acquire properties in high-risk landslide areas. Adopt land use policies that prohibit the placement of habitable structures in high-risk landslide areas. Reduce vulnerability: Adopt higher regulatory standards for new development within unstable slope areas. Armor/retrofit critical facilities against the impact of landslides. Build local capacity: Produce better hazard maps Provide technical information and guidance Enact tools to help manage development in hazard areas: better land controls, tax incentives, information Develop strategy to take advantage of post-disaster opportunities Warehouse critical infrastructure components Develop and adopt a continuity of operations plan Educate the public on the landslide hazard and appropriate 					
reduction techniques for landslide hazards	landslide hazards and emergency response	 risk reduction alternatives. Consider the probable impacts of future climate conditions on the rick associated with the landelide hazard 					

Table 25-7. Catalog of Risk Reduction Measures—Volcano							
Personal-Scale	Corporate-Scale	Government-Scale					
 Manipulate the hazard: None Reduce exposure: Locate outside of hazard area Reduce vulnerability: None Build local capacity: Develop and practice a household evacuation plan.	 Manipulate the hazard: None Reduce exposure: Locate outside of hazard area Reduce vulnerability: Protect corporate critical facilities from potential impacts of severe ash fall (air filtration capability). Build local capacity: Develop and practice a corporate evacuation plan Inform employees through corporate sponsored outreach Develop a cooperative. 	 Manipulate the hazard: Limited success has been experienced with lava flow diversion structures Reduce exposure: Locate outside of hazard area Reduce vulnerability: Protect critical facilities from potential problems associated with ash fall. Build redundancy for critical facilities and functions. Build local capacity: Public outreach, awareness. Tap into state volcano warning system to provide early warning to residents of potential ash fall problems 					

Table 25-8. Catalog of Mitigation Alternatives—Wildfire						
Personal-Scale	Corporate-Scale	Government-Scale				
• Manipulate the hazard:	Manipulate the	Manipulate the hazard:				
Clear potential fuels on	hazard:	Clear potential fuels on property such as dry underbrush and diseased				
property such as dry	Clear potential fuels	trees				
overgrown underbrush	on property such as	Implement best management practices on public lands				
and diseased trees	dry underbrush and	Reduce exposure:				
 Reduce exposure: 	diseased trees	Create and maintain defensible space around structures and				
Create and maintain	Reduce exposure:	infrastructure				
defensible space	Create and	Locate outside of hazard area				
around structures	maintain defensible	Enhance building code to include use of fire resistant materials in high				
 Locate outside of 	space around	hazard area.				
hazard area	structures and	Reduce vulnerability:				
Mow regularly	infrastructure	Create and maintain defensible space around structures and				
 Reduce vulnerability: 	Locate outside of	infrastructure				
Create and maintain	hazard area	Use fire-resistant building materials				
defensible space	Reduce	Use fire-resistant plantings in buffer areas of high wildfire threat.				
around structures and	vulnerability:	Consider higher regulatory standards (such as Class A roofing)				
provide water on site	Create and	Establish biomass reclamation initiatives				
 Use fire-resistant 	maintain defensible	Reintroduce fire (controlled or prescribed burns) to fire-prone ecosystems				
building materials	space around	Manage fuel load through thinning and brush removal				
 Create defensible 	structures and	Establish integrated performance standards for new development to				
spaces around home	infrastructure and	harden homes.				
 Build local capacity: 	provide water on	Build local capacity:				
 Employ techniques 	site	More public outreach and education efforts, including an active Firewise				
from the National Fire	Use fire-resistant	USA program				
Protection	building materials	Possible weapons of mass destruction funds available to enhance fire				
Association's Firewise	 Use fire-resistant 	capability in high-risk areas				
USA program to	plantings in buffer	Identify fire response and alternative evacuation routes and establish				
sateguard nome	areas of high	where heeded				
 Identity alternative 	wildfire threat.	Seek alternative water supplies				
water supplies for fire	• Build local capacity:	Become a Firewise USA community the pendemin to study import (solutions to wildfine risk)				
	Support Firewise	 Use academia to study impacts/solutions to wildfire risk Establish (maintain mathematical and announces how and find announces) 				
 Install/replace rooting 	USA community	 Establish/maintain mutual aid agreements between fire service agencies Develop, edept, and implement integrated plane for mitigating wildfire 				
material with non-		Develop, adopt, and implement integrated plans for mitigating wildlife impacts in wildland cross herdering on development.				
materials and	 Create /establish 	Consider the probable impacts of future alimate conditions on the risk				
implement other	stored water	Solution of the wildfire bazard in future land use decisions				
strategies to bardon	supplies to be	A Establish a management program to track forest and rangeland health				
bomes from embers	firefighting	 Establish a management program to track to be hardened against Provide incentives to for existing structures to be hardened against 				
and flame impingement	irrengnung.	wildfing				
		wiiuiiic.				

26. MITIGATION ACTIONS

26.1 SELECTED COUNTYWIDE MITIGATION ACTIONS

The planning partners and the Steering Committee determined that some actions from the mitigation catalogs could be implemented to provide hazard mitigation benefits countywide. Table 26-1 lists the recommended countywide actions, the lead agency for each, and the proposed timeline. The parameters for the timeline are as follows:

- Short Term = to be completed in 1 to 5 years
- Long Term = to be completed in greater than 5 years
- Ongoing = currently being funded and implemented under existing programs.

Table 26-1. Action Plan—Countywide Mitigation Actions								
Benefits new or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline		
 CW-1—Sponsor and maintain a natural-hazard informational website to include the following types of information: Hazard-specific information such as warning, private property mitigation alternatives, important facts on risk and vulnerability Pre- and post-disaster information such as notices of grant funding availability CRS creditable information Links to planning partners' pages, FEMA and Idaho Office of Emergency Management Natural hazard mitigation plan information such as progress reports, mitigation success stories, update strategies, Steering Committee 								
Hazards Mitigated:	Dam/Canal Fa	ailure, Drought, Ea	arthquake, Flood,	Landslide, Extre	eme Weather, Volcano, Wildfire			
New and Existing	2, 8, 9	EMCR	N/A	Low	EMCR Operational Budget	Ongoing		
CW-2—Maintain the Steering Committee as a functioning body, under the ground rules established at its inception, to monitor progress of the plan, provide technical assistance to planning partners, and oversee the update of the plan according to schedule.Hazards Mitigated:Dam/Canal Failure, Drought, Earthquake, Flood, Landslide, Extreme Weather, Volcano, WildfireNew and Existing6, 8, 9EMCRN/ALowCan be funded under existing programsOngoing programs								
CW-3—All planning partners that committed to the update effort will formally adopt this plan when pre-adoption approval has been granted by the Idaho Office of Emergency Management and FEMA Region X. Each planning partner will adhere to the plan maintenance protocol identified in this plan. All actions under this action will be coordinated by EMCR.Hazards Mitigated:Dam/Canal Failure, Drought, Earthquake, Flood, Landslide, Extreme Weather, Volcano, WildfireNew and ExistingAllEMCRAll PlanningLowCan be funded under existingShort-term								
Partners programs CW-4—Continue to implement ongoing public outreach programs administered by EMCR. Seek opportunities to promote the mitigation of natural hazards within the planning area, using information contained in this plan. Hazards Mitigated: Dam/Canal Eailure Drought								
New and Existing	2, 8, 9	EMCR	N/A	Low	Can be funded under existing programs	Ongoing		

Benefits new or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline	
CW-5—Seek out and use the best available data, science and technology to update the risk assessment to this plan as that data,							
science, technology and funding resources become available.							
Hazards Mitigated:	Dam/Canal Fa	ailure, Drought, Ea	arthquake, Flood,	Landslide, Extre	me Weather, Volcano, Wildfire		
New and Existing	2, 9	EMCR	N/A	Medium	FEMA HMGP, RiskMAP, federal hazard analysis funding	Long-term	
CW-6—Continue to	support and co	ordinate with the	ldaho Silver Jack	ets program.			
Hazards Mitigated:	Dam/Canal Fa	ailure, Drought, Ea	arthquake, Flood,	Landslide, Extre	eme Weather, Volcano, Wildfire		
New and Existing	2, 6, 8, 9	EMCR	N/A	Low	Can be funded under existing programs	Ongoing	
CW-7—Provide tech	nical support a	nd coordination for	or available grant	funding opportur	nities to the planning partnership.		
Hazards Mitigated:	Dam/Canal Fa	ailure, Drought, Ea	arthquake, Flood,	Landslide, Extre	eme Weather, Volcano, Wildfire		
New and Existing	2, 9	EMCR	N/A	Low	Can be funded under existing programs, FEMA HMGP	Short-term	
CW-8—Participate a	as a cooperating	g partner with FEN	MA and other stal	eholders in FEM	IA's RiskMAP initiative.		
Hazards Mitigated:	Flood						
New and Existing	2, 9	EMCR	N/A	Low	Can be funded under existing programs, RiskMAP initiative	Short-term	
CW-9—Leverage pu	iblic outreach p	artnering capabili	ties within the pla	nning area to pro	omote a uniform and consistent messag	e on the	
importance of proact	tive hazard miti	gation.					
Hazards Mitigated:	Dam/Canal Fa	ailure, Drought, Ea	arthquake, Flood,	Landslide, Extre	me Weather, Volcano, Wildfire	I	
New and Existing	All	EMCR	N/A	Low	EMCR Operational Budget	Ongoing	
CW-10—Coordinate	mitigation plan	ining and project of	efforts within the p	planning area to	leverage all resources available to the p	lanning	
partnersnip.	Dom/Conol Es	iliura Draught Fr		Landalida Evtra	was Masther Malassa Mildfins		
Now and Eviating		mure, Drought, Ea		Landslide, Extre	EMCD Operational Budget	Ongoing	
	1, 9, 10		IN/A				
future damage, with planning area in the	repetitive and s se pursuits.	severe repetitive l	oss properties as	a priority. Seek	opportunities to leverage partnerships w	ithin the	
Hazards Mitigated:	Dam/Canal Fa	ilure, Earthquake	, Flood, Landslide	e, Extreme Weat	her, Wildfire		
Existing	3, 9	Planning Partners	N/A	High	FEMA HMGP, BRIC, FMA	Long-term	
CW-12 —Use inform plans in effect within	ation contained the planning a	l in the Ada Count rea.	ty Multi-Hazard M	litigation Plan to	support updates to other emergency ma	inagement	
Hazards Mitigated:	Dam/Canal Fa	ailure, Drought, Ea	arthquake, Flood,	Landslide, Extre	eme Weather, Volcano, Wildfire		
New and Existing	1, 2, 6, 10	EMCR	N/A	Low	Can be funded under existing programs	Short-term	
CW-13 —Using the r	nost current Ha ponder facilities	zus model and ot and identified pot	her data available ential sheltering s	e, examine expo sites.	sure and level of risk to the known haza	rds of	
Hazards Mitigated:	Dam/Canal Fa	ilure. Earthquake	. Flood. Landslide	e. Extreme Weat	her. Volcano. Wildfire		
New and Existing	2, 9	EMCR	N/A	Low	Can be funded under existing	Long-term	
CW-14—Based on i	dentified risks	relocate or structu	rally harden first	responder faciliti	es as needed. Relocation may not be a	n option	
based on response	requirements of	f the organization.					
Hazards Mitigated:	Dam/Canal Fa	ilure, Drought, Ea	arthquake, Flood.	Landslide, Extre	eme Weather, Volcano, Wildfire		
New and Existing	3, 9	EMCR	All Planning Partners	High	FEMA HMGP	Long-term	

Benefits new or Existing Assets	Objectives Met	Lead Agency	Support Agency	Estimated Cost	Sources of Funding	Timeline
CW-15 —Using the most current Hazus model and other data available, categorize potential sheltering sites from lowest to highest exposure to the known hazards of concern. Identify partners that own the sheltering sites and encourage building enhancements at those sites that would allow for operations during a major disaster event.						
Hazards Mitigated: Dam/Canal Failure, Earthquake, Flood, Landslide, Extreme Weather, Volcano, Wildfire						
New and Existing	ting 2, 9 EMCR All Planning Low Can be funded under existing programs, FEMA HMGP		Long-term			

26.2 AREA-WIDE ACTION PLAN PRIORITIZATION

The actions recommended in the action plan were prioritized based on the following factors:

- Cost and availability of funding
- Benefit, based on likely risk reduction to be achieved
- Number of plan objectives achieved
- Timeframe for project implementation
- Eligibility for grand funding programs

Two priorities were assigned for each action:

- A high, medium, or low priority for implementing the action
- A high, medium, or low priority for pursuing grant funding for the action.

The sections below describe the analysis of benefits and costs and the assignment of the two priority ratings.

26.2.1 Benefit and Cost

The action plan must be prioritized according to a benefit/cost analysis of the proposed actions (44 CFR, Section 201.6(c)(3)(iii)). For this hazard mitigation plan, a qualitative benefit-cost review was performed for each action by assigning ratings for benefit and cost as follows:

- Cost:
 - High—Existing funding will not cover the cost of the action; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).
 - Medium—The action could be implemented with existing funding but would require a reapportionment of the budget or a budget amendment, or the cost of the action would have to be spread over multiple years.
 - Low—The action could be funded under the existing budget. The action is part of or can be part of an ongoing existing program.
- Benefit:
 - > **High**—Action will provide an immediate reduction of risk exposure for life and property.
 - Medium—Action will have a long-term impact on the reduction of risk exposure for life and property, or action will provide an immediate reduction in the risk exposure for property.
 - > Low—Long-term benefits of the action are difficult to quantify in the short term.

To assign priorities, each action with a benefit rating equal to or higher than its cost rating (such as high benefit/medium cost, medium benefit/medium cost, medium benefit/low cost, etc.) was considered to be costbeneficial. This is not the detailed level of benefit/cost analysis required for some FEMA hazard-related grant programs. Such analysis would be performed at the time a given action is being submitted for grant funding.

26.2.2 Implementation Priority

Implementation priority ratings were assigned as follows:

- **High Priority**—An action that meets multiple objectives, has benefits that exceed costs, and has a secured source of funding. Action can be completed in the short term (1 to 5 years).
- **Medium Priority**—An action that meets multiple objectives, has benefits that exceed costs, and is eligible for funding though no funding has yet been secured for it. Action can be completed in the short term (1 to 5 years), once funding is secured. Medium-priority actions become high-priority actions once funding is secured.
- Low Priority—An action that will mitigate the risk of a hazard, has benefits that do not exceed the costs or are difficult to quantify, has no secured source of funding, and is not eligible for any known grant funding. Action can be completed in the long term (1 to 10 years). Low-priority actions may be eligible for grant funding from programs that have not yet been identified.

26.2.3 Grant Pursuit Priority

Outside funding pursuit priority ratings were assigned as follows:

- **High Priority**—An action that meets identified funding eligibility requirements, has high benefits, and is listed as high or medium implementation priority; local funding options are unavailable or available local funds could be used instead for actions that are not eligible for funding from an outside local government source.
- **Medium Priority**—An action that meets identified outside funding source eligibility requirements, has medium or low benefits, and is listed as medium or low implementation priority; local funding options are unavailable.
- Low Priority—An action that has not been identified as meeting any outside funding source eligibility requirements.

26.2.4 Prioritization Summary for Countywide Actions

Table 26-2 lists the priority of each action.

26.3 CLASSIFICATION OF AREA-WIDE MITIGATION ACTIONS

Each recommended action was classified based on the hazard it addresses and the type of mitigation it involves. Table 26-3 shows these classifications.

Table 26-2. Mitigation Action Priority									
Action #	# of Objectives Met	Benefit	Cost	Do Benefits Equal or Exceed Costs?	Is Action Eligible for Grant Funding?	Can Action be Funded Under Existing Programs/ Budgets?	Implementation Priority	Grant Pursuit Priority	
CW-1	3	Low	Low	Yes	No	Yes	High	Low	
CW-2	3	Low	Low	Yes	No	Yes	High	Low	
CW-3	10	Low	Low	Yes	No	Yes	High	Low	
CW-4	3	Low	Low	Yes	No	Yes	High	Low	
CW-5	2	Medium	Medium	Yes	Yes	No	Medium	Medium	
CW-6	4	Low	Low	Yes	No	Yes	High	Low	
CW-7	2	Low	Low	Yes	Yes	Yes	High	Medium	
CW-8	2	Low	Low	Yes	Yes	Yes	High	Medium	
CW-9	10	Low	Low	Yes	No	Yes	High	Low	
CW-10	3	Low	Low	Yes	No	Yes	High	Low	
CW-11	2	High	High	Yes	Yes	No	Medium	High	
CW-12	4	High	Low	Yes	Yes	Yes	High	High	
CW-13	2	Low	Low	Yes	Yes	Yes	High	Medium	
CW-14	2	High	High	Yes	Yes	No	Medium	High	
CW-15	2	Low	Low	Yes	Yes	Yes	High	Medium	

Table 26-3. Analysis of Mitigation Actions								
	Actions That Address the Hazard, by Mitigation Type							
Hazard	Prevention	Property Protection	Public Education & Awareness	Natural Resource Protection	Emergency Services	Structural Projects	Climate Resiliency	Community Capacity Building
Medium Risk Hazards								
Earthquake		CW-11, 14	CW-1, 4, 9		CW-13, 15			CW-2, 3, 5, 6, 7, 10, 12
Extreme Weather		CW-11, 14	CW-1, 4, 9		CW-13, 15			CW-2, 3, 5, 6, 7, 10, 12
Flood		CW-11, 14	CW-1, 4, 9		CW-13, 15			CW-2, 3, 5, 6, 7, 8, 10, 12
Low Risk Hazards								
Dam/Canal Failure		CW-11, 14	CW-1, 4, 9		CW-13, 15			CW-2, 3, 5, 6, 7, 10, 12
Drought			CW-1, 4, 9					CW-2, 3, 5, 6, 7, 10, 12
Landslide		CW-11, 14	CW-1, 4, 9		CW-13, 15			CW-2, 3, 5, 6, 7, 10, 12
Wildfire		CW-11, 14	CW-1, 4, 9		CW-13, 15			CW-2, 3, 5, 6, 7, 10, 12

Mitigation types used for this categorization are as follows:

- **Prevention**—Government, administrative or regulatory actions that influence the way land and buildings are developed to reduce hazard losses. Includes planning and zoning, floodplain laws, capital improvement programs, open space preservation, and stormwater management regulations.
- **Property Protection**—Modification of buildings or structures to protect them from a hazard or removal of structures from a hazard area. Includes acquisition, elevation, relocation, structural retrofit, storm shutters, and shatter-resistant glass.
- **Public Education and Awareness**—Actions to inform community members and elected officials about hazards and ways to mitigate them. Includes outreach projects, real estate disclosure, hazard information centers, and school-age and adult education.
- **Natural Resource Protection**—Actions that minimize hazard loss and preserve or restore the functions of natural systems. Includes sediment and erosion control, stream corridor restoration, watershed management, forest and vegetation management, wetland restoration and preservation, and green infrastructure.
- **Emergency Services**—Actions that protect people and property during and immediately after a hazard event. Includes warning systems, emergency response services, and the protection of essential facilities.
- **Structural Projects**—Actions that involve the construction of structures to reduce the impact of a hazard. Includes dams, setback levees, floodwalls, retaining walls, and safe rooms.
- Climate Resiliency—Actions that incorporate methods to mitigate and/or adapt to the impacts of future climate conditions. Includes aquifer storage and recovery activities, incorporating future conditions projections in project design or planning, or actions that specifically address jurisdiction-specific climate risks, such as sea level rise or urban heat island effect.
- **Community Capacity Building**—Actions that increase or enhance local capabilities to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. Includes staff training, memorandums of understanding, development of plans and studies, and monitoring programs.

27. PLAN ADOPTION AND IMPLEMENTATION

27.1 PLAN ADOPTION

A hazard mitigation plan must document formal adoption by the governing body of the jurisdiction requesting federal approval of the plan (44 CFR, Section 201.6.c.5). For multi-jurisdictional plans, each jurisdiction requesting approval must document that is has been formally adopted. This plan was submitted for a review to the Idaho Office of Emergency Management and the Insurance Services Office (FEMA's CRS contractor) prior to adoption. Once pre-adoption approval was provided, planning partners formally adopted the plan update. All partners understand that DMA compliance and its benefits cannot be achieved until the plan is adopted. Copies of the resolutions adopting this plan for all planning partners and the final approval letter from FEMA can be found in Appendix G of this volume.

27.2 PLAN MAINTENANCE STRATEGY

A hazard mitigation plan must present a plan maintenance process that includes the following (44 CFR Section 201.6.c.4):

- A section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan over a 5-year cycle
- 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
- A discussion on how the community will continue public participation in the plan maintenance process.

This section details the formal process that will ensure that the 2017 Ada County Multi-Hazard Mitigation Plan remains an active and relevant document and that the planning partners maintain their eligibility for applicable funding sources. The plan maintenance process includes a schedule for monitoring and evaluating the plan annually and producing an updated plan every five years. This chapter also describes how public participation will be integrated throughout the plan maintenance and implementation process. It explains how the mitigation strategies outlined in this Plan will be incorporated into existing planning mechanisms and programs, such as comprehensive land-use planning processes, capital improvement planning, and building code enforcement and implementation. The Plan's format allows sections to be reviewed and updated when new data become available, resulting in a plan that will remain current.

27.3 PLAN IMPLEMENTATION

The effectiveness of the hazard mitigation plan depends on its implementation and incorporation of its action items into partner jurisdictions' existing plans, policies and programs. Together, the action items in the Plan

provide a framework for activities that the partners can implement over the next 5 years. The planning team and the Steering Committee have established goals and objectives and have prioritized mitigation actions that will be implemented through existing plans, policies and programs.

Ada County Emergency Management & Community Resilience (EMCR) will have lead responsibility for overseeing the Plan implementation and maintenance strategy. Plan implementation and evaluation will be a shared responsibility among all planning partnership members and agencies identified as lead agencies in the mitigation action plans (see planning partner annexes in Volume 2 of this plan).

27.4 STEERING COMMITTEE

The Steering Committee is a volunteer body that oversaw the development of the Plan and made recommendations on key elements of the plan, including the maintenance strategy. It was the Steering Committee's position that an oversight committee with representation similar to the initial Steering Committee should have an active role in the Plan maintenance strategy. Therefore, it is recommended that a steering committee remain a viable body involved in key elements of the Plan maintenance strategy. The new steering committee should strive to include representation from the planning partners, as well as other stakeholders in the planning area.

The principal role of the new steering committee in this plan maintenance strategy will be to review the annual progress report and provide input to EMCR on possible enhancements to be considered at the next update. Future plan updates will be overseen by a steering committee similar to the one that participated in this update process, so keeping an interim steering committee intact will provide a head start on future updates. Completion of the progress report is the responsibility of each planning partner, not the responsibility of the steering committee. The steering committee's role will be to review the progress report in an effort to identify issues needing to be addressed by future plan updates.

27.5 ANNUAL PROGRESS REPORT

The minimum task of each planning partner will be the evaluation of the progress of its individual action plan during a 12-month performance period. This review will include the following:

- Summary of any hazard events that occurred during the performance period and the impact these events had on the planning area
- Review of mitigation success stories
- Review of continuing public involvement
- Brief discussion about why targeted strategies were not completed
- Re-evaluation of the action plan to determine if the timeline for identified projects needs to be amended (such as changing a long-term project to a short-term one because of new funding)
- Recommendations for new projects
- Changes in or potential for new funding options (grant opportunities)
- Impact of any other planning programs or initiatives that involve hazard mitigation.

The planning team has created a template to guide the planning partners in preparing a progress report (see Appendix H). The plan maintenance steering committee will provide feedback to the planning team on items included in the template. It is the intent of the planning team to prepare an annual report on the progress of the plan. This report should be used as follows:

- Posted on the EMCR website page dedicated to the hazard mitigation plan
- Presented to planning partner governing bodies to inform them of the progress of actions implemented during the reporting period
- For planning partners that participate in the Community Rating System, the report can be provided as part of the CRS annual re-certification package. The CRS requires an annual recertification to be submitted by October 1 of every calendar year for which the community has not received a formal audit. To meet this recertification timeline, the planning team will strive to complete progress reports between June and September each year.

Uses of the progress report will be at the discretion of each planning partner. Annual progress reporting is not a requirement specified under 44 CFR. However, it may enhance the planning partnership's opportunities for funding. While failure to implement this component of the plan maintenance strategy will not jeopardize a planning partner's compliance under the DMA, it may jeopardize its opportunity to partner and leverage funding opportunities with the other partners. Each planning partner was informed of these protocols at the beginning of this planning process, and each partner acknowledged these expectations with submittal of a letter of intent to participate in this process.

27.6 PLAN UPDATE

Local hazard mitigation plans must be reviewed, revised if appropriate, and resubmitted for approval in order to remain eligible for benefits under the DMA (44 CFR, Section 201.6.d.3). The Ada County partnership intends to update the hazard mitigation plan on a 5-year cycle from the date of initial plan adoption. This cycle may be accelerated to less than 5 years based on the following triggers:

- A Presidential Disaster Declaration that impacts the planning area
- A hazard event that causes loss of life
- An update of the County or participating city's comprehensive plan

It will not be the intent of future updates to develop a complete new hazard mitigation plan for the planning area. The update will, at a minimum, include the following elements:

- The update process will be convened through a steering committee.
- The hazard risk assessment will be reviewed and, if necessary, updated using best available information and technologies.
- The action plans will be reviewed and revised to account for any actions completed, dropped, or changed and to account for changes in the risk assessment or new partnership policies identified under other planning mechanisms (such as the comprehensive plan).
- The draft update will be sent to appropriate agencies and organizations for comment.
- The public will be given an opportunity to comment on the update prior to adoption.
- The partnership governing bodies will adopt their respective portions of the updated plan.

27.7 CONTINUING PUBLIC INVOLVEMENT

The public will continue to be apprised of the plan's progress through the EMCR website, including providing copies of annual progress reports on the website. Each planning partner has agreed to provide links to the County hazard mitigation plan website on their individual jurisdictional websites to increase avenues of public access to the plan. EMCR has agreed to maintain the hazard mitigation plan website. This site will not only house the final plan, it will become the one-stop shop for information regarding the plan, the partnership and plan implementation. Upon initiation of future update processes, a new public involvement strategy will be initiated based on guidance from a new steering committee. This strategy will be based on the needs and capabilities of the planning partnership at the time of the update. At a minimum, this strategy will include the use of local government websites, social media and the Ada County Local Emergency Planning Committee.

27.8 INCORPORATION INTO OTHER PLANNING MECHANISMS

The information on hazard, risk, vulnerability and mitigation contained in this plan is based on the best science and technology available at the time this update was prepared. The Ada County Comprehensive Plan and the comprehensive plans of the partner cities are considered to be integral parts of this plan. The County and partner cities, through adoption of comprehensive plans and zoning ordinances, have planned for the impact of natural hazards. The Plan update process provided the County and the cities with the opportunity to review and expand on policies contained within these planning mechanisms. The planning partners used their comprehensive plans and the hazard mitigation plan as complementary documents that work together to achieve the goal of reducing risk exposure to the citizens of the Ada County. An update to a comprehensive plan may trigger an update to the hazard mitigation plan.

All municipal planning partners support the creation of a linkage between the hazard mitigation plan and their individual comprehensive plans by identifying a mitigation action as such and giving that action a high priority. Other planning processes and programs to be coordinated with the recommendations of the hazard mitigation plan may include the following:

- Partners' emergency response plans
- Capital improvement programs
- Municipal codes
- Community design guidelines
- Water-efficient landscape design guidelines
- Stormwater management programs
- Water system vulnerability assessments
- Master fire protection plans

Some action items do not need to be implemented through regulation. Instead, they can be implemented through the creation of new educational programs, continued interagency coordination, or improved public participation. As information becomes available from other planning mechanisms that can enhance this plan, that information will be incorporated via the update process.

REFERENCES

Abatzoglou, J. T., A. M. Marshall, and G. L. Harley. 2021. *Observed and Projected Changes in Idaho's Climate*. Idaho Climate-Economy Impacts Assessment, Boise, ID: James A. & Louise McClure Center for Public Policy Research, University of Idaho.

Ada County. 2019. "Ada County 2025 Comprehensive Plan; 2019 Update." extension://elhekieabhbkpmcefcoobjddigjcaadp/https://adacounty.id.gov/developmentservices/wp-content/uploads/sites/37/AdaCounty2025.pdf.

Ada County Emergency Management. 2017. *Ada County Multi-Hazard Mitigation Plan*. Accessed April 4, 2022. https://adacounty.id.gov/emergencymanagement/mitigation/.

Ada County Emergency Management. 2018. *Ada County Flood Response Plan*. December. Accessed April 14, 2022. https://adacounty.id.gov/emergencymanagement/wp-content/uploads/sites/39/2018-Flood-Plan-Web.pdf.

Boise River Enhancement Network. 2015. *Boise River Enhancement Plan*. Accessed April 19, 2022. http://www.boiseriverenhancement.org/wpcontent/uploads/2016/08/Boise River Enhancement Plan 100215 lowres.pdf.

Center for Disaster Philanthropy. 2021. U.S. Civil Unrest.. September 13. Accessed September 24, 2021. https://disasterphilanthropy.org/disaster/u-s-civil-unrest/.

Center on Budget and Policy Priorities. 2022. *Tracking the COVID-19 Economy's Effects on Food, Housing, and Employment Hardships*. February 22. Accessed March 31, 2022. https://www.cbpp.org/research/poverty-and-inequality/tracking-the-covid-19-economys-effects-on-food-housing-and.

Centers for Disease Control and Prevention. 2013. *Lightning: Victim Data*. December 23. Accessed April 18, 2022.

https://www.cdc.gov/disasters/lightning/victimdata.html#:~:text=People%20aged%2015%E2%80%9334%20year s,of%20lightning%20injuries%20occur%20indoors.

Centers for Disease Control and Prevention. 2017. *About Extreme Heat*. June 19. Accessed April 17, 2022. https://www.cdc.gov/disasters/extremeheat/heat_guide.html.

Centers for Disease Control and Prevention. 2018. *Past Pandemics*. August 10. Accessed March 31, 2022. https://www.cdc.gov/flu/pandemic-resources/basics/past-pandemics.html.

Centers for Disease Control and Prevention. 2020. *Diseases Carried by Vectors*. December 21. Accessed April 28, 2022. https://www.cdc.gov/climateandhealth/effects/vectors.htm.

Centers for Disease Control and Prevention. 2020. *Health Implications of Drought*. January 16. Accessed April 15, 2021. https://www.cdc.gov/nceh/drought/implications.htm.

Centers for Disease Control and Prevention. 2021. *Plague*. August 21. Accessed March 31, 2022. https://www.cdc.gov/plague/index.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fplague%2Fhistory%2Findex.html.

Centers for Disease Control and Prevention. 2022. *West Nile Virus Statistic and Maps*. Accessed March 31, 2022. https://www.cdc.gov/westnile/statsmaps/index.html.

Centers for Disease Control and Prevention. n.d. *Extreme Cold: A Prevention Guide to Promote Your Personal Health and Safety.* Accessed April 17, 2022. https://www.cdc.gov/disasters/winter/guide.html.

CNN/Money. 2013. *Fortune 500 Companies by State*. Accessed March 25, 2013. http://money.cnn.com/magazines/fortune/fortune500/2012/states/WA.html.

COMPASS. 2021. *Communities in Motion 2040 2.0 R5 Demographic Forecast*. Accessed April 1, 2022. https://www.compassidaho.org/documents/prodserv/demo/R5web_updated.pdf.

COMPASS. 2022. *Historic Populations Estimates by City Limits*. April 18. Accessed May 10, 2022. https://www.compassidaho.org/documents/prodserv/demo/2022PopulationEstimateOfficialHistoric.pdf.

Cybersecurity & Infrastructure Security Agency. 2019. *Protecting Against Malicious Code*. April 11. Accessed April 11, 2022. https://www.cisa.gov/uscert/ncas/tips/ST18-271#:~:text=Malicious%20code%20is%20unwanted%20files,%2C%20worms%2C%20and%20Trojan%20horses

Datto. 2022. *Cybersecurity 101: Intro to the Top 10 Common Types of Cybersecurity Attacks*. January 21. Accessed April 11, 2022. https://www.datto.com/blog/cybersecurity-101-intro-to-the-top-10-common-types-of-cybersecurity-attacks.

Economic Development Council of Seattle and King County. 2013. *Economic Basics*. Accessed March 25, 2013. http://edc-seaking.org/data-center/economic-data/economic-basics/#employers.

Emergency Management Accreditation Program. 2019. Accessed May 10, 2022. https://emap.org/index.php.

Environmental Protection Agency. 2001. "Chemical Accidents from Electric Power Outages." September. Accessed April 29, 2022. https://www.epa.gov/sites/default/files/2013-11/documents/power.pdf.

Environmental Protection Agency. 2001. "Chemical Accidents from Electric Power Outages." September. Accessed May 15, 2022. https://www.epa.gov/sites/default/files/2013-11/documents/power.pdf.

Environmental Protection Agency. 2016. *What Climate Change Means for Idaho*. August. Accessed April 28, 2022. https://www.epa.gov/sites/default/files/2016-09/documents/climate-change-id.pdf.

Environmental Protection Agency. 2021. *Search for Superfund Sites Where You Live*. September 15. Accessed March 18, 2022. https://www.epa.gov/superfund/search-superfund-sites-where-you-live.

Environmental Protection Agency. 2021. *Technologically Enhanced Naturally Occurring Radioactive Materials* (*TENORM*). July 12. Accessed April 4, 2022. https://www.epa.gov/radiation/technologically-enhanced-naturally-occurring-radioactive-materials-

tenorm#:~:text=Technologically%20Enhanced%20Naturally%20Occurring%20Radioactive%20Material%20(TE NORM)%20is%20defined%20as,extraction%2C%20or%20water%20process.

Environmental Protection Agency. 2022. *Hazardous Substance Designations and Release Notifications*. February 22. Accessed March 13, 2022. https://www.epa.gov/epcra/hazardous-substance-designations-and-release-notifications.

Environmental Protection Agency. 2022. *Heat Island Effect*. February 24. Accessed April 17, 2022. https://www.epa.gov/heatislands.

Erdman, Jonathan. 2021. *America's No. 1 Weather Killer Is Not Tornadoes, Flooding, Lightning or Hurricanes.* June 3. Accessed April 17, 2022. https://weather.com/safety/heat/news/2021-06-03-heat-america-fatalities.

Essex County Sheriff's Department. 2020. *Section 4.3.11 Civil Disorder*. Accessed September 24, 2021. https://www.essexsheriff.com/wp-content/uploads/2019/12/Draft-Section-4.3.11-Civil-Disorder.pdf.

Federal Bureau of Investigation. 2021. "FBI National Press Office." *FBI*. March 17. Accessed September 24, 2021. https://www.fbi.gov/news/pressrel/press-releases/fbi-releases-the-internet-crime-complaint-center-2020-internet-crime-report-including-covid-19-scam-statistics.

Federal Bureau of Investigation. 2021. *Examining the January 6 Attack on the U.S. Capitol.* June 15. Accessed April 11, 2022. https://www.fbi.gov/news/testimony/examining-the-january-6-attack-on-the-us-capitol-wray-061521.

Federal Bureau of Investigation. n.d. *Terrorism*. Accessed April 11, 2022. https://www.fbi.gov/investigate/terrorism.

Federal Emergency Management Agency. 2012. "Disaster Declaration Summary." *FEMA Open Government Dataset*. Accessed December 10, 2012. http://www.fema.gov/library/viewRecord.do?id=6292.

Federal Emergency Management Agency. 2016. *Be Aware of Potential Risk of Dam Failure in Your Community*. August. Accessed November 17, 2022. https://www.fema.gov/sites/default/files/2020-08/fema_dam-safety_aware-community_fact-sheet_2016.pdf.

Federal Emergency Management Agency. 2022. *Declared Disasters*. Accessed April 15, 2022. https://www.fema.gov/disaster/declarations.

Federal Emergency Management Agency. 2022a. *Soil and Rock Types*. Accessed July 13, 2022. <u>https://training.fema.gov/emiweb/earthquake/neh0102360.htm</u>.

Felman, Adam. 2020. "What to know about pandemics." Medical News Today, March 30.

Harding, Hayley. 2019. "Security." *Government Technology*. May 16. Accessed September 2021. https://www.govtech.com/security/fbi-dhs-investigate-malware-attack-in-ada-county-idaho.html. Harmon. 2010. *Climate change will impact infectious diseases worldwide, but questions remain as to how.* Accessed 2021. https://blogs.scientificamerican.com/observations/climate-change-will-impact-infectious-diseases-worldwide-but-questions-remain-as-to-how/.

Huff, Charlotte. 2021. "Growing Power Outages Pose Grave Threat To People Who Need Medical Equipment To Live." *Shots. Health News From NPR*, May 15.

Idaho Department of Water Resources. 2022. *Dams of Idaho Map*. March 22. Accessed April 14, 2022. https://idwr.maps.arcgis.com/apps/webappviewer/index.html?id=55330739c574491aa48db3e3c76d5d0e.

Idaho Department of Water Resources. 2021. *Drought Declarations*. September 21. Accessed April 15, 2022. https://idwr.idaho.gov/water-data/drought-declarations/.

Idaho Department of Water Resources. 2021. *Hazard Classification*. May 4. Accessed April 14, 2022. https://idwr.idaho.gov/dams/hazard-classification/.

Idaho Division of Public Health. 2022. *DPH Idaho COVID-19 Dashboard*. March 31. Accessed March 31, 2022. https://public.tableau.com/app/profile/idaho.division.of.public.health/viz/DPHIdahoCOVID-19Dashboard/Home.

Idaho Office of Emergency Management. 2018. "Chapter 3.9 Civil Disturbance." December. Accessed September 24, 2021. https://ioem.idaho.gov/wp-content/uploads/sites/57/2018/12/ID-SHMP-Chapter-3.9-Civil-Disturbance.pdf.

Idaho Press. 2020. *Boise police don't have a civil disturbance policy. They're working on one now.* August 1. Accessed April 11, 2022. https://www.idahopress.com/news/local/boise-police-dont-have-a-civil-disturbance-policy-theyre-working-on-one-now/article_b997ec45-5629-5cbd-8ef3-3f1094e65fe4.html.

Idaho Statesman. 2022. *Six Idahoans were charged in the Jan. 6 Capitol riot. Here's where their cases stand.* January 6. Accessed April 11, 2022. https://www.eastidahonews.com/2022/01/six-idahoans-were-charged-in-the-jan-6-capitol-riot-heres-where-their-cases-stand/.

Kingston, Jennifer A. 2020. "Exclusive: \$1 billion-plus riot damage is most expensive in insurance history." *Axios.* September 16. Accessed September 24, 2021. https://www.axios.com/riots-cost-property-damage-276c9bcc-a455-4067-b06a-

66f9db4cea9c.html?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosam&stream= top.

Lewis, Tristan. 2021. "Local News." *KTVB7*. August 5. Accessed September 2021. https://www.ktvb.com/article/news/local/idaho-gov-little-new-cybersecurity-task-force-targets-election-integrity-security/277-196c8873-2757-4853-a240-1b050fec9821.

Morgan, Steve. 2020. "Cybercrime Magazine." *Cybersecurity Ventures*. November 13. Accessed September 2021. https://cybersecurityventures.com/hackerpocalypse-cybercrime-report-2016/.

National Aeronautics and Space Administration. 2022. *Carbon Dioxide*. February. Accessed April 7, 2022. https://climate.nasa.gov/vital-signs/carbon-dioxide/.

National Aeronautics and Space Administration. 2022. *Climate Change: How Do We Know?* April 28. Accessed April 28, 2022. https://climate.nasa.gov/evidence/.

National Aeronautics and Space Administration. 2022. *The Effects of Climate Change*. April 28. Accessed April 28, 2021. https://climate.nasa.gov/effects/.

National Centers for Environmental Information. n.d. 1991 - 2020 Normals for Boise Air Terminal, ID. Accessed August 18, 2021. https://www.ncei.noaa.gov/access/us-climate-normals/#dataset=normals-monthly&timeframe=30&location=ID&station=USW00024131.

National Centers for Environmental Information. n.d. *January - December Climate Averages for Ada County, Idaho*. Accessed August 18, 2021. https://ncei-normals-mapper.rcc-acis.org/.

National Climatic Data Center. 2022. NOAA National Centers for Environmental Information National Oceanic and Atmospheric Administration Storm Events Database. Accessed April 7, 2022. https://www.ncdc.noaa.gov/stormevents/.

National Drought Mitigation Center. 2022. *Drought Basics*. Accessed April 6, 2022. https://drought.unl.edu/Education/DroughtBasics.aspx.

National Drought Mitigation Center. 2022. *Drought Impact Reporter*. Accessed April 15, 2022. https://droughtreporter.unl.edu/map/.

National Integrated Drought Information Center. n.d. *Drought Basics*. Accessed April 15, 2022. https://www.drought.gov/what-is-drought/drought-basics#types-of-drought.

National Lightning Safety Institute. 2014. *Lightning Costs and Losses From Attributed Sources*. March. Accessed April 16, 2022. http://lightningsafety.com/nlsi_lls/ListofLosses14.pdf.

National Oceanic and Atmospheric Administration. n.d. *Severe Weather 101 - Lightning*. Accessed April 16, 2022. https://www.nssl.noaa.gov/education/svrwx101/lightning/types/.

National Weather Service. n.d. *During a Heat Wave*. Accessed April 18, 2022. https://www.weather.gov/safety/heat-during.

National Weather Service. 2009. *Flood Categories*. June 25. Accessed April 18, 2022. https://w1.weather.gov/glossary/index.php?word=flood+categories.

National Weather Service. n.d. *What is the heat index?* Accessed April 17, 2022. https://www.weather.gov/ama/heatindex.

National Weather Service. n.d. *Wind Chill Chart*. Accessed April 17, 2022. https://www.weather.gov/safety/cold-wind-chill-chart.

NBC News. 2021. *Idaho protesters burn masks at state Capitol rally*. March 6. Accessed April 11, 2022. https://www.nbcnews.com/news/us-news/idaho-protesters-burn-masks-state-capitol-rally-n1259847.

Neace, Tom. 2020. *IGWA Bulletin*. March. Accessed April 4, 2022. https://www.igwa.info/_documents/2020%20WD%20Reduced%20Enews.pdf.

NOAA. n.d. *Severe Weather 101 - Thunderstorms*. Accessed April 16, 2022. https://www.nssl.noaa.gov/education/svrwx101/thunderstorms/.

NWS. n.d. *How Dangerous is Lightning*? Accessed March 27, 2022. https://www.weather.gov/safety/lightning-odds#:~:text=Only%20about%2010%25%20of%20people,has%20averaged%2027%20lightning%20fatalities.

Pipeline and Hazardous Materials Safety Administration. 2022. *Hazmat Incident Report*. Accessed March 18, 2022.

https://portal.phmsa.dot.gov/analytics/saw.dll?Portalpages&PortalPath=%2Fshared%2FPublic%20Website%20Pages%2F_portal%2FHazmat%20Incident%20Report%20Search.

Purplesec. 2021. "Resources." *Purplesec*. Accessed September 2021. https://purplesec.us/resources/cyber-security-statistics/.

Shang, Yunfeng, Haiwei Li, and Ren Zhang. 2021. "Effects of Pandemic Outbreak on Economies: Evidence From Business History Context." *Frontiers in Public Health*. March 12. Accessed September 24, 2021. https://www.frontiersin.org/articles/10.3389/fpubh.2021.632043/full.

State of Idaho Hazard Mitigation Plan. 2018. *Idaho Office of Emergency Management*. Accessed March 13, 2022. https://ioem.idaho.gov/preparedness-and-protection/mitigation/state-hazard-mitigation-plan/.

U. S. Army Corps of Engineers. 2019. A Guide to Public Alerts and Warnings for Dam and Levee Emergencies. April 30. Accessed April 11, 2022.

https://www.publications.usace.army.mil/Portals/76/Users/182/86/2486/EP%201110-2-17.pdf?ver=2019-06-20-152050-550.

U.S. Army Corps of Engineers. 2020. *National Inventory of Dams*. Accessed April 14, 2022. https://nid.usace.army.mil/#/.

U.S. Bureau of Labor Statistics. 2022. *BLS Data Finder 1.1*. Accessed May 10, 2022. https://beta.bls.gov/dataQuery/search.

U.S. Census Bureau. 2013. "American FactFinder." U.S. Department of Commerce United States Census Bureau. Accessed March 22, 2013. http://factfinder2.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t.

U.S. Climate Resilience Toolkit. 2021. *Drought*. September 28. Accessed November 23, 2021. https://toolkit.climate.gov/topics/water/drought.

U.S. Departement of Health & Human Services. 2021. *Examples of Radiation Signs and Symbols for Work Areas, Buildings, Transportation of Cargo*. August 9. Accessed April 4, 2022. https://remm.hhs.gov/radsign.htm.

U.S. Department of Health & Human Services. 2022. *Radiation Emergency Medical Management*. February 17. Accessed April 1, 2022. https://remm.hhs.gov/index.html.

U.S. Department of Homeland Security. 2022. *National Terrorism Advisory System*. February 1. Accessed April 11, 2022. https://www.dhs.gov/national-terrorism-advisory-system.

U.S. Department of Homeland Security. 2016. *Nuclear/Radiological Incident Annex to the Response and Recovery Federal Interagency Operational Plans*. October. Accessed April 1, 2022. https://www.fema.gov/sites/default/files/2020-07/fema_incident-annex_nuclear-radiological.pdf.

U.S. Drought Monitor. 2022. *Idaho*. April 14. Accessed April 15, 2022. https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?ID.

U.S. Drought Monitor. 2022. *Time Series*. Accessed April 15, 2022. https://droughtmonitor.unl.edu/DmData/TimeSeries.aspx.

U.S. Geological Survey. 2022. *Earthquake Hazards Program*. Accessed April 15, 2022. https://earthquake.usgs.gov/.

U.S. Geological Survey. 2021. *Earthquake Magnitude, Energy Release, and Shaking Intensity*. Accessed April 15, 2022. https://www.usgs.gov/natural-hazards/earthquake-hazards/science/earthquake-magnitude-energy-release-and-shaking-intensity?qt-science_center_objects=0#qt-science_center_objects.

U.S. Geological Survey. 2006. "Landslide Types and Processes." USGS Maps, Products & Publications. January. Accessed 2021. https://pubs.usgs.gov/fs/2004/3072/pdf/fs2004-3072.pdf.

U.S. Geological Survey. 2021. ShakeMap. Accessed April 15, 2022. https://earthquake.usgs.gov/data/shakemap/.

U.S. Geological Survey. 2011. *ShakeMap Scientific Background*. March 9. Accessed April 6, 2022. https://web.archive.org/web/20110623092131/http://earthquake.usgs.gov/earthquakes/shakemap/background.php #intmaps.

U.S. Geological Survey. 2016. *Subduction Fault Zone Diagram*. July 18. Accessed April 11, 2022. https://www.usgs.gov/media/images/subduction-fault-zone-diagram.

U.S. Geological Survey. 2021. *The Modified Mercalli Intensity Scale*. Accessed April 6, 2022. https://www.usgs.gov/natural-hazards/earthquake-hazards/science/modified-mercalli-intensity-scale?qt-science_center_objects=0#qt-science_center_objects.

U.S. Geological Survey. 2014. *Two-percent probability of exceedance in 50 years map of peak ground acceleration*. Accessed April 16, 2022. https://earthquake.usgs.gov/static/lfs/nshm/conterminous/2014/2014pga2pct.pdf.

U.S. Immigration and Customs Enforcement. 2016. *Idaho man sentenced to 25 years in prison on terrorism charges*. January 7. Accessed April 11, 2022. https://www.ice.gov/news/releases/idaho-man-sentenced-25-years-prison-terrorism-charges.

U.S. Nuclear Regulatory Commission. 2021. Part 20—Standards for Protection Against Radiation. September 14. Accessed April 4, 2022. https://www.nrc.gov/reading-rm/doc-collections/cfr/part020/full-text.html#part020-1301.

University of Idaho. n.d. *Indicators of Idaho's Changing Climate*. Accessed April 28, 2022. https://idahoclimatescience.weebly.com/.

Volcano Discovery. 2022. *Archive*. Accessed April 15, 2022. https://www.volcanodiscovery.com/searchresults.html?cx=partner-pub-3740653521982427%3A9wc33x-8e80&cof=FORID%3A10&ie=UTF-8&q=earthquakes.

Waldron, Kelly. 2011. *How Vulnerable is New Jersey to Cyber Terrorism?* December 11. Accessed April 11, 2022. https://nj1015.com/how-vulnerable-is-new-jersey-to-cyber-terrorism-audio/.

Washington Emergency Management Division. 2013. *Dam Failures and Incidents*. Accessed March 25, 2013. http://www.emd.wa.gov/hazards/haz_dam_failure_incidents_table.shtml.

Washington Employment Security Department. 2013. "Historical Estimates of Local Unemployment Statistics." *Washington Employment Security Department*. Accessed February 20, 2013. https://fortress.wa.gov/esd/employmentdata/reports-publications/regional-reports/local-unemployment-statistics.

Washington State Office of Financial Management. 2012. "Historical Estimates of April 1 Population and Housing for the State, Counties and Cities." *Office of Financial Management*. December 10. Accessed March 21, 2013. http://www.ofm.wa.gov/pop/april1/hseries/default.asp.

World Health Organization. 2017. *Radiation: Ultraviolet (UV) radiation and skin cancer*. October 16. Accessed April 28, 2022. https://www.who.int/news-room/questions-and-answers/item/radiation-ultraviolet-(uv)-radiation-and-skin-

cancer#:~:text=As%20ozone%20levels%20are%20depleted,4%2C500%20melanoma%20skin%20cancer%20case s.

Worldometer. 2022. *COVID-19 Coronavirus Pandemic*. March 31. Accessed March 31, 2022. https://www.worldometers.info/coronavirus/.