5 STATE CAPABILITIES

Standard State Mitigation Plan Regulation Checklist
STATE MITIGATION CAPABILITIES
S8. Does the plan discuss the evaluation of the state's hazard management policies, programs, capabilities, and funding sources to mitigate the hazards identified in the risk assessment? [44 CFR § 201.4(c)(3)(ii)]
S8-a. Does the plan include an evaluation of state laws, regulations, policies and programs related to hazards that improve or impede resilience to future natural hazard events and other future conditions, including the effects of climate change?
S8-b. Does the plan include a general discussion of state funding capabilities for hazard mitigation actions and projects?
S8-c. Does the plan include a summary of obstacles, challenges and proposed solutions related to any state capabilities, including a brief discussion of potential strategies for overcoming any challenges related to implementing and enforcing hazard-resistant building codes statewide, as applicable, and changes since the previous plan approval?

Source: FEMA, 2022

5.1 PRE- AND POST-DISASTER HAZARD MITIGATION POLICIES, PROGRAMS, AND CAPABILITIES

5.1.1 State Laws, Regulations, Policies, and Programs Related to Hazard Mitigation

Table 5-1 lists pre- and post-disaster hazard mitigation laws, regulations, policies, and programs available in Alaska for hazard mitigation. The table provides a description of each law, regulation, policy, and program and describes how it improves or impedes resilience, including the effects of climate change. The laws, regulations, policies, and programs are listed alphabetically.

Table 5-1: Hazard Mitigation Laws, Regulations, Policies and Programs in Alaska

Program	Description
Adapt Alaska	Developed by Alaska Sea Grant and partners, Adapt Alaska creates a discussion space for Alaska communities, tribes, agencies, and nonprofits. The goal is to allow residents to share information and learn from one another about what they are experiencing and how they can adapt to the changing landscape, ocean conditions, and climate across Alaska. The Adapt Alaska website provides a toolbox of monitoring, mitigation, and adaptation solutions and is a portal to useful Alaska-specific web resources. Most important, Adapt Alaska provides a platform for communities to share their successes, challenges, and lessons learned.
Adapt Y-K Delta	The Yukon-Kuskokwim (Y-K) Adapt project is designed to help build resilience for Y-K Delta resources and the people who depend on them. The organization is composed of a regionally driven group of tribal and community leaders, organizations, individuals, researchers, and public resource managers.
Alaska Arctic Observatory and Knowledge Hub (AAOKH)	AAOKH provides resources and scientific information for sharing expertise on and observations of Alaska sea ice, wildlife, and coastal waters. AAOKH's scientists, staff, steering committee, and observers weave "connections among Indigenous and scientific perspectives by putting local observations in the context of scientific measurements.…" Since 2016, AAOKH observers have contributed over 2,000 observations. These are added to a database curated by the Exchange for Local Observations and Knowledge of the Arctic program. The local observations of local sea ice features and events help improve interpretation of satellite imagery, which can ultimately lead to better ice forecasts and climate models.
Alaska Arctic Policy	In 2015, the Alaska State Legislature passed the draft Alaska Arctic Policy, Alaska Statute (AS) 44.99.105. The policy consists of four pillars, three of which address climate change and hazard mitigation: • Pillar #2: Address the Response Capacity Gap ensures strengthened capacity to address Arctic maritime, science, climate, and security issues. • Pillar #3: Support Healthy Communities anticipates, evaluates, and responds to risks from climate change related to land erosion and deterioration of community infrastructure and services and supports community efforts to adapt and relocate when necessary. • Pillar #4: Strengthen Science and Research (1) strengthens efforts to incorporate local and traditional knowledge into science and research and use this community-based knowledge to inform management, health, safety, response, and environmental decisions; (2) supports monitoring and collecting baseline and observational data to enhance understanding of Arctic

Table 5-1: Hazard Mitigation Laws, Regulations, Policies and Programs in Alaska

Program	Description
	ecosystems and regional climate changes; and (3) invests in U.S. Arctic weather, water, and ice forecasting systems.
Alaska Center for Climate Assessment and Policy (ACCAP)	ACCAP's mission is to "conduct innovative and collaborative research and engagement to inform climate policy, decision-making, and action for a just and sustainable future." ACCAP focus areas include extreme events, climate resilience, outreach and engagement, and sustained assessment. ACCAP is one of 11 National Oceanic and Atmospheric Administration (NOAA) Climate Adaptation Partnerships and is funded by a 5-year cooperative agreement with NOAA. ACCAP's work includes drought and extreme event workshops, avalanche assessment and predictions, climate partnership information distribution, and the sustained assessment network.
Alaska Climate Change Impact Mitigation Program (ACCIMP)	ACCIMP was established to provide technical assistance and funding to communities imminently threatened by climate-related natural hazards such as erosion, flooding, storm surges, and thawing permafrost. ACCIMP works with communities to develop a planned approach to shoreline protection, building relocation, and/or eventual relocation of entire villages.
Alaska Dam Safety Program	The Alaska Dam Safety Program is overseen by the Dam Safety and Construction Unit of the Department of Natural Resources (DNR). DNR regulates dams in Alaska that meet certain jurisdictional criteria defined in AS 46.17 (1987) and Article 3, Dam Safety, of 11 Alaska Administrative Code (AAC) 93 to protect life and property. As part of the Alaska Dam Safety Program, a Certificate of Approval to Construct, Modify, or Repair a Dam is required before any new construction or major modification or repair of an existing dam. A Certificate of Approval to Operate a Dam is required before a new or modified dam can be put into service. A Certificate of Approval to Abandon a Dam is required before removal or abandonment (de-regulation) of a dam. For Class I and Class II dams, an Emergency Action Plan is required by 11 AAC 93.164.
Alaska Earthquake Center	The Alaska Earthquake Center has been operating under the authority of AS 14.40.075 for over 25 years. The Alaska Earthquake Center provides mapping tools, historical information, and public outreach to a variety of stakeholders concerning earthquakes and tsunamis. It also monitors seismic events from earthquakes, landslides, and glacier calving using its statewide network of seismic instruments. During 2019-2020, the Alaska Earthquake Center was able to expand their permanent seismic monitoring network by acquiring 96 of 158 temporary USArray sites in Alaska that were set to be removed. Also, additional instrumentation was added to the stations to forecast forest fire behavior, monitoring changes in North Slope permafrost, and better recording of seismic sequences. The network now includes 96 stations adopted by the Alaska Earthquake Center and 11 stations by the Alaska Volcano Observatory.

Table 5-1: Hazard Mitigation Laws, Regulations, Policies and Programs in Alaska

Program	Description
Alaska Firewise	Alaska Firewise is a cooperative effort among local, state, federal, and private agencies and organizations to promote fire safety in areas vulnerable to wildland and community fires. Communities can become a Firewise Community by creating a Firewise Board and Firewise Task Force or Commission, developing a Community Wildfire Protection Plan (CWPP), sponsoring Wildfire Days public events, volunteering or investing in community wildfire mitigation, and seeking certification. There are three Firewise communities in Alaska.
Alaska Heritage Emergency Network	Founded in 2022, Alaska Heritage Emergency Network is a partnership between cultural heritage institutions, professional organizations, and emergency response agencies working to integrate cultural heritage institutions and other cultural heritage organizations into emergency management and response efforts.
Alaska Interagency Coordination Center (AICC)	AICC is the Geographic Area Coordination Center for Alaska. It is the center point for state and federal agencies involved in wildland fire management and suppression in Alaska. It provides incident information, predictive services, and logistics and dispatch. In addition, AICC coordinates and provides support for all hazard emergency response activities for federal landholding agencies in Alaska. It also provides support to the Alaska State Office–Bureau of Land Management (BLM) for non-emergency activities.
Alaska Native Tribal Health Consortium (ANTHC)	ANTHC is a non-profit Tribal health organization that serves the Alaska Native and American Indian people living in Alaska. ANTHC works with various stakeholders to create strategies that encourage wellness, resilience, and sustainability within the Alaska Native and American Indian community in Alaska. ANTHC's Emergency Preparedness program assists in the development of emergency response plans (ERPs) for clinics, emergency operation plans (EOPs) for hospitals, and table-top, functional, and full-scale exercises. In addition, during an emergency or disaster, the ANTHC Emergency Preparedness program works as a liaison, connecting communities, partners, and Tribal health organizations with the Alaska Division of Homeland Security & Emergency Management (DHS&EM) and the Alaska Department of Health (DOH). The ANTHC Emergency Preparedness program also sends team members to communities, when requested, to respond to disasters. ANTHC's Center for Climate and Health assists Tribal communities, helping them to better understand climate change. It provides assessments, technical assistance, training, and monitoring assistance for environmental impacts. In addition, the program coordinates the interagency One Health Group, which provides surveillance of emerging environmental, wildlife, and public health threats. In May 2023, ANTHC along with DCRA, prepared a final draft of *Unmet Needs of Environmentally Threatened Alaska Native Villages: Assessment and Recommendations* to "help improve the effectiveness of federal and state government support for Alaska communities to address climate and

Table 5-1: Hazard Mitigation Laws, Regulations, Policies and Programs in Alaska

Program	Description
	environmental threats, specifically erosion, flooding, and permafrost degradation." The report identifies funding needs and priorities, and implementation strategies and goals, including community-specific data collection and analysis, fundable local coordinator positions, community-specific technical assistance teams, and a conceptual governmental "Mitigation Framework" to address environmental threats in Alaska.
Alaska Partnership for Infrastructure Protection (APIP)	APIP is a collaborative effort between the government, businesses, and nonprofits to gather, analyze, and disseminate critical infrastructure information during periods of vulnerability or threat. Since 2004, it has conducted infrastructure threat analyses, constructed detailed infrastructure maps, identified critical vulnerability interdependencies, conducted exercises to identify gaps in infrastructure protection, and prioritized a comprehensive list of integrated protection strategies.
Alaska Risk Mapping, Assessment, and Planning (MAP) Program	The Risk MAP is an innovative, FEMA-developed flood hazard mapping, multi-hazard risk assessment, and mitigation planning program designed to increase local understanding of risk, inform community decisions regarding risk, and ultimately lead to local actions to reduce risk. See Section 5.1.3 for more information about the Alaska Risk MAP Program.
Alaska Sea Grant	Alaska Sea Grant is an organization that works with communities to help Alaskans adapt and build resilience to changing climate and ecosystems. This is achieved through research, education, and outreach through Marine Advisory agents who live and work in eight coastal communities across Alaska. Alaska Sea Grant is one of 34 Sea Grant programs nationwide and is headquartered at UAF.
Alaska Seismic Hazards Safety Commission	The Alaska Seismic Hazards Safety Commission is charged by statute to recommend goals and priorities for seismic risk mitigation for the public and the private sectors and to recommend policies, including needed research, mapping, and monitoring programs, to the governor and legislature to reduce the state's vulnerability to earthquakes. The Commission, administered by the Department of Natural Resources, Division of Geological & Geophysical Surveys (DGGS), consists of 11 members appointed by the governor from the public and private sectors for 3-year terms. The Commission offers advice on coordinating disaster preparedness and seismic hazard mitigation activities to government at all levels, reviews the practices for recovery and reconstruction after a major earthquake, and recommends improvements to mitigate losses from similar future events. The Commission also reviews proposed seismic hazard notifications and supporting information from state agencies, evaluates possible socioeconomic consequences, recommends that the governor issue formal seismic hazard notifications when appropriate, and advises state and local agencies on appropriate responses.

Table 5-1: Hazard Mitigation Laws, Regulations, Policies and Programs in Alaska

Program	Description
Alaska Silver Jackets Team	Silver Jackets teams are interagency teams that facilitate collaborative solutions to state flood risk priorities. The state-led teams bring together various stakeholders to learn from one another and work together to reduce risk from floods and other natural disasters. The state sets the priorities for mitigation. The Alaska Silver Jackets Team utilizes the new National Wetlands Inventory geodatabase to create wetland maps specific to the City of Bethel, Village of Aniak, and the Alaska Native Village of Napaimute of the Yukon-Kuskokwim Delta. These maps highlight the infrastructure, culturally important areas, and natural features of each community in relation to the location and category of existing wetlands, with the goal of informing future development and floodplain management planning decisions. The team is also focusing on ice jam expertise. It is using information from the United States Army Corps of Engineers (USACE) Cold Regions Research and Engineering Laboratory to train state and local practitioners on Alaska-specific ice jam issues.
Alaska Volcano Observatory (AVO)	AVO is a joint program of the United States Geological Survey (USGS), the Geophysical Institute of the UAF, and the State of Alaska Division of Geological and Geophysical Surveys. AVO was formed in 1988; it uses federal, state, and university resources to monitor and study Alaska's hazardous volcanoes, to predict and record eruptive activity, and to mitigate volcanic hazards to life and property. In support of public land use planning, the development of emergency response plans, and general public awareness of the nature of volcanic activity in Alaska, AVO is responsible for assessing the full range of potential volcanic hazards. Hazard assessments include descriptions of the history of a given volcano, explanations of likely eruption scenarios, and determination of probable impact zones for the range of expected hazards.
Alaska Water Level Watch	Alaska Water Level Watch is a collaborative group working to improve the quality, coverage, and accessibility to water-level observations in Alaska’s coastal zone. Water-level data have many applications that contribute to emergency management and hazard mitigation, including storm modeling and mapping; tsunami warnings, watches, and advisories; incident response; search and rescue operations; tidal datums; sea-level trends; and storm trends.
Arctic Urban Risks and Adaptations	Arctic Urban Risks and Adaptations is a 4-year (2020–2024) National Science Foundation project that addresses changing environmental hazards around the Municipality of Anchorage, Fairbanks and Whitehorse. The primary focus of AURA is to understand how wildfire hazards are changing and the risks associated with them and using this information to develop wildfire impact mapping and assessment tools. In addition, AURA will address other environmental hazards, including permafrost thaw and rain-in-winter.
Coastal Hazards Program	DGGS’s Coastal Hazards Program tracks coastline data and develops tools to help communities in Alaska understand how the coastline has evolved and how to respond to hazardous events and long-term

Table 5-1: Hazard Mitigation Laws, Regulations, Policies and Programs in Alaska

Program	Description
	changes. The program's coastal community erosion assessments show past shorelines, forecasted erosion areas, locations of infrastructure at risk to erosion, estimated erosion exposure dates, and erosion forecast uncertainty. The program is currently developing a coastal community flood assessment that shows flood heights using written accounts, photographs, historical and modern imagery, and elevation models.
Denali Commission Village Infrastructure Protection (VIP) Program	The Denali Commission Act of 1998 established the Denali Commission to deliver services of the federal government in rural Alaska. The Denali Commission is an independent federal agency that focuses on developing the basic infrastructure, economic development, and workforce training needs for rural Alaska in collaboration with state, local, Tribal, and private partners. In 2015, the White House directed the Commission to establish a VIP program to assist rural Alaskan communities that are threatened by erosion, flooding, and permafrost degradation. The goal of the VIP program is to mitigate the impact of these threats with respect to safety, health, and the protection of infrastructure. From 2016 – 2020, the agency spent approximately $40 million for VIP-related initiatives.
Hazard Fuel Reduction Program	The State of Alaska, Division of Forestry (DOF), manages a Hazard Fuel Reduction Program. DOF's protection responsibilities are geographically split into six separate areas and within each area the Hazard Fuel Reduction Program is carried out through hand crews, mechanical treatment and prescribed burns. Recent projects include Old Murphy Dome in Fairbanks, Delta River West Phase 1a and Delta Bison Habitat in the Delta Area, Eagle Subdivision Fuel Break in the Tok Area, Copper River, McGrath, Takotna, Nikolia, Telida in the South-West Area, Caswell, Sunset Fuels Phase 1 and Sunset in the Mat-Su Area, and Alaska State Parks Fuels Reduction Phase II, Kenai Peninsula Community College Hazard Fuel Reduction, and Denali Borough.
International Codes (I-Codes)	The I-Codes, developed by the International Codes Council, include a suite of 15 building codes. The I-Codes in place in Alaska (statewide or locally) that have a special emphasis on mitigation include: • International Building Code (IBC) 2021: The IBC addresses building requirements for commercial buildings. • International Energy Conservation Code (IECC) 2018: The IECC establishes a baseline for energy efficiency by setting performance standards for building envelopes, mechanical systems, lighting systems, and service water heating systems in homes and commercial businesses. • International Fire Code (IFC) 2021: The IFC addresses fire precautions, emergency planning and preparedness, fire department access and water supplies, automatic sprinkler systems, fire alarm systems, special hazards, and the storage and use of hazardous materials. • International Residential Code (IRC) 2018: The IRC addresses building, plumbing, mechanical, fuel gas, and electrical requirements for one- and two-family dwellings and townhouses up to three stories.

Table 5-1: Hazard Mitigation Laws, Regulations, Policies and Programs in Alaska

Program	Description
	• The International Existing Building Code (IEBC) 2021, International Fuel Gas Code (IFGC) 2021, and International Mechanical Code (IMC) 2021 are requirements for four dwelling units (4-Plex) and above and for commercial buildings, and are adopted under the authority of the Alaska State Fire Marshal. The IBC and IFC are adopted under the authority of the Alaska State Fire Marshal. The Fire Marshal has the discretion to initiate code adoption of the IBC and IFC when new editions are available. State-agency-adopted codes are mandatory and fall under state inspection programs. Local jurisdictions may be designated as Deferred Jurisdictions, which allows local administration of building codes. Deferred Jurisdictions may adopt more recent editions and additional codes such as the IRC and IECC. The IRC and IECC are not adopted statewide. Local jurisdictions may have their own residential codes to follow, and the Alaska Housing Finance Corporation adopts the IRC for its residential standard and the IECC for its Building Energy Efficiency Standard. The IBC recognizes that Alaska is a seismically active state and requires higher loads and more stringent detailing requirements for the structures that resist them. According to the International Code Council, the IECC "establishes a minimum set of requirements and serves as the basis for the formulation of additional tools that meet the policy needs of all levels of governments and the private sector entities that have set energy, greenhouse gas emissions and cost saving targets." As such, the IECC helps address the impacts of climate change.
Mitigation Planning Database	In 2018, DHS&EM began to build an access database to identify common threats and hazards in communities throughout the State. In 2022, DHS&EM upgraded the system to an SQL Server, which is a relational database management system developed by Microsoft. With this upgrade, DHS&EM was to store information from every local and tribal HMP they had on file and retrieve data in an online community table/report. Currently the community reports include for each community: general overview, cultural information, public safety, public services, transportation, hazards, activities (grants, other planning documents, and State Emergency Operations Center events), and limited critical facilities. The database also includes State disaster information and limited mapping. In addition, DHS&EM has created a memorandum with DCRA to share data.
National Flood Insurance Program	The National Flood Insurance Program (NFIP) is a program created by the United States Congress through the National Flood Insurance Act of 1968 and managed by the Federal Insurance and Mitigation Administration. The NFIP has two purposes: to share the risk of flood losses through flood insurance and to reduce flood damages by restricting floodplain development. The program enables property owners, renters and business owners that live in any of the 33 NFIP participating communities to purchase insurance protection through a licensed property or casualty insurance agent against losses from flooding Thus, allowing community members to meet the purchase requirements to obtain flood

Table 5-1: Hazard Mitigation Laws, Regulations, Policies and Programs in Alaska

Program	Description
	insurance homes, and buildings located in the Special Flood Hazard Areas, the areas of high-flood risk areas designated on flood maps, for loans backed by a federally regulated lender. Section 5.1.2 for more information on the National Flood Insurance Program in Alaska.
National Tsunami Hazard Mitigation Program (NTHMP)	The NTHMP is a federal/state working group that NOAA formed in 1995, as directed by Congress. Today, NTHMP includes NOAA, FEMA, the USGS, and 28 U.S. states and territories. The group works together toward the common goals of protecting lives and reducing economic losses from tsunamis at the community level. In Alaska, the Alaska Earthquake Center, DGGS and DHS&EM are coordinating committee members of NTHMP.
River Watch Program	The River Watch Program assesses and reports river ice conditions during annual spring break-up. The program includes aerial surveillance with State Emergency Operations Center staff and NWS hydrologists of major river systems, including the Yukon and Kuskokwim, and voluntary reports of river ice conditions by pilots and community members. Reports of ice conditions and river water levels as the break-up front moves down river enable local communities to prepare for and mitigate against flooding while allowing more accurate NWS forecasts, warnings, and navigation information.
Scenarios Network for Alaska + Arctic Planning (SNAP)	SNAP is a team of boreal ecologists, visual designers, and software developers that uses climate data to create and share ideas on how the future northern climate could look. SNAP is a part of the International Arctic Research Center at the University of Alaska Fairbanks. SNAP has created and maintained the following climate tools to be freely used: Airport Winds, Alaska Garden Helper, Alaska Wildfire Explorer, Arctic-EDS, Climate Scenarios for the NWT, Community Climate Charts, Community Permafrost Data, Community Wind, Environmental Impacts to Access in Interior Alaska, Fire Tally, Fish and Fire in Interior Alaska, Historical Sea Ice Atlas, Northern Climate Reports, Precipitation Projections for Interior Alaska, and Statewide Temperature Index.
Western Alaska Partnership	The Western Alaska Partnership is one of 22 landscape conservation cooperative organizations in North America. It promotes coordination, dissemination, and development of applied science to inform landscape-level conservation focusing on climate change. For the past decade, the Western Alaska Partnership has been assisting in the development of ShoreZone, conducting extensive mapping of coastal change, and training Local Environmental Observers.

5.1.2 State Administration of the National Flood Insurance Program

DCRA serves as the NFIP Coordinator in Alaska. As the NFIP Coordinator in Alaska, DCRA coordinates with other state offices to ensure policies and regulations are in place to meet the minimum NFIP standards, supports NFIP communities, provides technical assistance to local communities and state agencies, maintains a state floodplain mapping program through a cooperative agreement with FEMA for producing and providing flood hazard maps that include best available flood and erosion information as a tool for flood hazard mitigation and implementation of the NFIP used to regulate floodplain development and mitigate for flood losses.

After damages of any cause within a NFIP community (disasters report to DMVA), the community's Floodplain Administrator (FPA) will be contacted the State NFIP Coordinator. The number of damaged structures inside the Special Flood Hazard Area will be determined by the community's FPA and provided to DCRA and DMVA Specialist. At that time, assistance will be offered to the community by DCRA Specialist for Substantial Damage Estimations (SDE). If assistance is requested, the FPA can provide the following but not limited to:

- Provide technical assistance to communities for SDE software program.
- Provide training for SDE Teams members for field work.
- Help in getting more accurate count of structures affected for SDE.
- Provide FPA with assistance for meetings with local officials.
- Provide follow-up monthly contact to update on substantial damage evaluations and disaster declaration progress.
- Long term follow will be though Community Assistance Contacts and Community Assistance Visits.
- Provide community information on Increased Cost of Compliance (ICC) Coverage and Mitigation Assistance funds which may be available.

DCRA will assist any community with training and field work to ensure that the damage estimates by the community is compliant with the NFIP. The community should request the assistance in writing to the DCRA. After the request is made to DCRA the information will be given to DCRA Director. The community should be able to estimate the number of structures in the floodplain receiving damage from the event and pass it along to the DCRA Floodplain Management Staff. At that point, the DCRA Director will make decisions on deployment of staff to assist with fieldwork or by providing technical advice or training. Any community requesting assistance from DCRA should be willing to have local individuals available to comprise the teams and operate the FEMA Substantial Damage Estimates program. If the damage is so widespread that the number of requests or the number of structures supersede the capacity of the DCRA, then a meeting with the Governor’s office, DCRA Director and the State NFIP Coordinator will be initiated to determine the course of action.

In Alaska, about one-third (34%) of Alaska’s 164 incorporated municipalities participate in the NFIP. This participation includes 33 communities and boroughs and an additional 25 cities within the jurisdictional boundaries of participating NFIP boroughs. Most of Alaska’s population resides within the communities that participate in the NFIP as follows: 85 percent reside in organized boroughs and 3 percent reside in the cities in the unorganized boroughs. NFIP participation in Alaska grew 2.24% from 2010 to 2021. Alaskan communities that participate in the NFIP are 20 Cities: City of Aniak, City of Bethel, City of Cordova, City of Dillingham, City of Emmonak, City of Fort Yukon, City of Galena, City of Homer, City of Hoonah, City of Kotzebue, City of Kenai, City of Koyukuk, City of Kwethluk, City of McGrath, City of Nenana, City of Nome, City of Seward, City of Shishmaref, City of Togiak, City of

Valdez and 12 Boroughs: Municipality of Anchorage, Fairbanks North Star Borough, Haines Borough, City and Borough of Juneau, Kenai Peninsula Borough, Lake and Peninsula Borough, Matanuska-Susitna Borough, Northwest Arctic Borough, Petersburg Borough, City and Borough of Sitka, and Municipality of Skagway.

The City of Kenai was accepted into the NFIP program in 2022, and North Slope Borough has been working with DCRA to get policies and regulations established to apply to join the NFIP in the next 18 months. The NFIP continues to expand within the State of Alaska and the DCRA staff support and encourage communities that have land use authority to join the NFIP.

Communities are encouraged to join the Community Rating System (CRS) which offers discounts to the entire community on flood insurance premiums if communities reduce their number of Repetitive Loss (RL) structures or Severe Repetitive Loss (SRL) structures and participate in other community wide mitigation activities. Most RL structures are present within communities due to the structure being built before the community joined the NFIP. Currently, there are 48 structures listed as RL, of those structures there are 4 that are SRL buildings. DCRA is actively using grant funds to remove RL structures from the floodplain and communities continue to seek and utilize grant funds to remove RL structures or elevate structures within the floodplain to mitigate risks during flood events.

The NFIP prevents the development of structures within the floodplain that do not meet the regulations and standards, such as the requirement to build above the base flood elevation (BFE). If a RL structure is damaged or requires improvement repairs the local FPA would determine if the work would cost more than 50 percent of the market value of the structure, meaning the building is being substantial improved, SI or has substantial damage, SD. IF work on buildings constitutes SI/SD, then structures must be brought into compliance with the NFIP requirements for new construction.

There are 2,250 flood insurance policies within the NFIP communities in Alaska as of April 1, 2021, reported by FEMA Headquarters. Of those policies 1,685 are single family homes. The Fairbanks North Star Borough has 28% of the policies followed by Anchorage Municipality with 18% of the policies. There are 48 RL structures in Alaska and 4 are shown to be SRL structures. The DCRA and local NFIP communities work to secure grant funding to acquire and relocate at-risk structures. After a substantial damage event, a property or business owner with flood insurance can secure ICC funds to elevate their structure to prevent future risk of flood damages.

In addition to the NFIP, communities can voluntarily participate in CRS. The CRS program that recognizes and encourages community floodplain management practices that exceed the minimum requirements of NFIP. Property owners in CRS communities receive discounted flood insurance premium premiums rates that can range from 5% to 45% depending on the rating level a community meets within the program. There are seven communities in Alaska that participate in CRS: Anchorage Municipality, City of Homer, Ketchikan Gateway Borough, City of Nome, City of Seward and City of Valdez. The classification ratings are based on the floodplain management practices in place in a community—the more the community does in activities, Public Information, Mapping and Regulations, Flood Damage Reduction, and in Flood Preparedness, the lower the class rating and the higher the discounted insurance premiums.

DCRA staff promote the CRS and help communities join the program by explaining the benefits of the CRS to elected officials and other local decision makers so they will encourage their staff to devote the resources needed to join the CRS or improve their classification. The DCRA improves local programs by offering training, templates, models, and examples help communities improve their floodplain management activities to improve their CRS standing.

5.1.3 FEMA's Risk Mapping, Assessment, and Planning (Risk MAP) Program

The Alaska Risk MAP Program is funded through a Cooperating Technical Partnership between the State of Alaska and FEMA. The Alaska Risk MAP Coordinator (RMC) serves as the intermediary and primary point of contact between Alaska's local jurisdictions and FEMA and is supported by a Risk Map Project Team, subject matter experts, and stakeholders, as needed.

The *Alaska Mapping Business Plan: Integrating Mapping, Assessment, and Resilience Planning* (DCRA, 2022) comprehensively evaluates the status of Alaska's flood maps, setting priorities for future mapping and risk assessment and outlining a collaborative relationship with FEMA to fully execute the Risk MAP within Alaska. In Alaska, Risk MAP priorities are determined through the Alaska Prioritization and Future Studies Sequencing Decision Support System, which is a ranking methodology based on flood risk, flood needs, and flood action potential within a watershed. The results of this analysis showed that the high-priority watersheds (and the NFIP-communities within them) for Risk Map studies, including the Upper Kenai Peninsula, South Central Alaska, and Western Alaska coastal areas. In addition, environmentally threatened Alaska Native villages are also prioritized for Risk Map studies. These villages are selected through the ranking provided in the Alaska Statewide Threat Assessment.

The RMC can provide training and technical assistance to Alaska communities in the areas of:

- Benefit Cost Analysis (BCA) – Support communities to identify, capture, and document the necessary data to run a BCA as well as understand how to run the FEMA approved BCA model.
- Building Science – Support communities in the understanding of construction issues and opportunities in the identified natural hazard and risk areas.
- Community Capability Development – Support building community capability to sponsor and implement mitigation actions through activities such as: capability assessment; gap analysis; and process, change, and project management.
- Community Rating System (CRS) – How to integrate CRS elements into mitigation plans and floodplain ordinances (public information, mapping and regulation, flood damage reduction, warning, and response).
- Community Planning – Support communities in the consideration of natural hazards in all relevant areas of community planning, i.e., comprehensive plans, capital improvement plans, stormwater management, etc.
- Grant Application Development – Support communities in the development of scopes of work, schedules, and budgets for a successful mitigation activity grant application.
- Mitigation Planning Technical Assistance – Support communities by the creation and dissemination of training and technical assistance for achieving mitigation actions. Training can be provided at any time during the Risk MAP project. It may be desired to include a series of training activities over the course of a flood risk project.
- Risk Assessment – Support communities in the assessment of relative risk for decision support, including HAZUS or other methods. Provide technical assistance on how to use a risk assessment tool.
- Risk MAP Data Availability and Tools – Support building community capability to use and understand the regulatory and flood risk components and tools of a Risk MAP project including Flood Risk Products.

The Risk MAP process typically takes 4 to 6 years, with extensive technical assistance provided to the community. Risk MAP not only focuses on flood maps but also on all natural hazards impacting the community, and how new data, risk assessments, and tools can be integrated into community plans and

ongoing efforts to increase community resilience. Once a watershed is selected for Risk MAP based on prioritization from the Alaska Prioritization and Future Studies Sequencing Decision Support System and the Alaska Statewide Threat Assessment, the Alaska Risk MAP Coordinator reaches out to the community to determine its interest in Risk MAP and the community's primary needs and concerns. After an engagement strategy has been determined, community and Tribal officials, subject matter experts, and stakeholders meet with the Alaska RMC and Risk MAP Project Team (which consists of FEMA, FEMA's contractors, the Alaska NFIP Coordinator, the Alaska State Hazard Mitigation Officer [SHMO], the Alaska Mitigation Planner, and the Alaska Mitigation Grants Officer) several times throughout the process, including during the following phases:

- Kickoff or "discovery," including a discovery meeting, post-meeting coordination and project scope development, and discovery report
- Data collection and analysis, including draft work maps and a flood risk review meeting
- Risk reduction, including a risk report, preliminary Flood Insurance Rate Maps (FIRMs) and studies, a meeting with the Consultation Coordination Officer, a public meeting/open house, and a resilience workshop/meeting

The public is invited to participate in Risk MAP by reviewing and commenting on the preliminary FIRMs or studies at the public meeting/open house and to develop and/or refine mitigation strategies at a resilience workshop. Based on input received at the resilience workshop, mitigation strategies are revised to reflect community priorities. During this final phase of Risk MAP, FEMA and the Alaska Risk MAP Coordinator will work with the community to integrate Risk MAP information into local plans, implement the actions identified during the resilience workshop, and seek funding to implement projects identified during the risk reduction phase.

As of September 2022, 19 incorporated municipalities (the Municipality of Anchorage, Fairbank North Star Borough, City and Borough of Juneau, Kenai Peninsula Borough, Ketchikan Gateway Borough, Kodiak Island Borough, Matanuska-Susitna Borough, City and Borough of Sitka, and the Cities of Aniak, Bethel, Cordova, Emmonak, Kotzebue, Kwethluk, and Valdez) within Alaska have been recipients of Risk MAP studies, which have just begun, are under way, or have been completed. Four of these incorporated municipalities were also involved with studies begun under the Map Modernization Program, which has been superseded by Risk MAP. The studies range from risk and vulnerability assessments to LiDAR acquisition to physical map revisions.

5.2 FUNDING CAPABILITIES FOR HAZARD MITIGATION

Table 5-2 lists funding capabilities available in Alaska for hazard mitigation. A description of each funding capability and a discussion of whether and how the funding has been used previously in Alaska are provided in the table. Funding capabilities are listed alphabetically by department or agency.

Table 5-2: Hazard Mitigation Funding Capabilities for State Use

Type	Overview and State Use
Alaska Center for Climate Assessment and Policy (ACCP) Small Grants Program	ACCP runs a small grants program for statewide and regional non-profit organizations that serve Alaska Native Peoples. The objectives of the grant program include enhancing the capacity for resilience and adaptation and developing leadership for addressing climate challenges. The program is funded in partnership with the United States Arctic Research Commission. In 2022, ACCP awarded small grants up to $50,000 to the Chugach Regional Resources Commission, Copper River Native Association, Kodiak Area Native Association, and Yukon River Inter-Tribal Watershed Council to focus on climate adaptation needs.
Alaska Department of Commerce, Community, and Economic Development – Division of Community and Regional Affairs: Alaska Climate Change Impact Mitigation Program (ACCIMP) Community Planning Grants	The majority of ACCIMP funds were directed to specific communities that the Governor's Subcabinet on Climate Change, Immediate Action Workgroup (IAW) has identified as imminently threatened. ACCIMP provides non-competitive funding to these communities for Community Planning Grants to address the recommendations for immediate actions made by the IAW in its 2008 Recommendations Report to the Governor's Subcabinet on Climate Change. In addition, communities that complete Hazard Impact Assessments are eligible to receive Community Planning Grants, as funding becomes available. Communities that have received ACCIMP funds include Shishmaref, Kivalina, Newtok, Koyukuk, Unalakleet, Shaktoolik, Atmautluak, and Kipnuk. Based on the scope of the community planning project, communities were eligible for grants of up to $150,000.
FEMA: Assistance to Firefighters Grant (AFG) Program	The AFG Program is a direct annual competitive grant program that focuses on enhancing the safety of the public and firefighters with respect to fire and fire-related hazards. Funding can be used to purchase equipment, protective gear, and emergency vehicles and provide training and other resources related to fire hazards. The AFG Program provides financial assistance directly to eligible fire departments, nonaffiliated emergency medical service organizations, and state fire training academies. Total national funding for fiscal year (FY) 2022 were $325 million. Since 2018, 38 AFG grants have been awarded in Alaska. The Alaska Department of Public Safety received four grants totaling $1.63 million for the state's fire training academy and 34 additional grants totaling $5.16 million were awarded to local jurisdictions and fire departments to fund various operation and safety measures.
FEMA: Emergency Management Performance Grant (EMPG)	EMPGs are annual pass-through grants that provide state, local, Tribal, and territorial emergency management agencies with the resources required for implementation of the National Preparedness System and works toward the National Preparedness Goal of a secure and resilient nation. Allowable costs support efforts to build and sustain core capabilities across the prevention, protection, mitigation, response and recovery mission areas. Total funding for EMPGs in FY 2022 was $405.1 million.
FEMA: Emergency Operations Center (EOC) Grant Program	The EOC Grant Program is congressionally directed spending that is intended to improve emergency management and preparedness capabilities by "supporting flexible, sustainable, secure, strategically located, and fully interoperable emergency operations centers with a focus on addressing identified deficiencies and needs" to ensure the continuity of operations and continuity of government during and after any major disaster or emergency. Mitigation staff are often

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Type	Overview and State Use
	present in an EOC during disaster or emergency response, and the EOC creates and maintains documentation for immediate or future mitigation opportunities. EOC grants are available to state and local agencies and federally recognized Tribal governments with projects identified in the Notice of Funding Opportunity.. Total funding for the EOC Grant Program for FY 2022 was $49.02 million. In 2022 the Alutiiq Tribe of Old Harbor was awarded $1.5 million for a new tsunami shelter.
FEMA: Fire Management Assistance Grant (FMAG)	FMAG is an ongoing non-competitive disaster assistance grant program that is available to state and local agencies, federally recognized Tribal governments, and volunteer fire agencies for the mitigation, management, and control of fires on publicly or privately owned forests or grasslands. To receive funding, the Governor or Governor's Authorized Representative must submit a request for a fire management assistance declaration to FEMA while a fire is burning or threatens to become a major disaster. Eligible activities may include expenses for field camps; equipment use, repair, and replacement; mobilization and demobilization activities; and tools, materials, and supplies. The State of Alaska most recently received FMAG funds from FEMA on June 25, 2022, to pay for firefighting costs for the Clear Fire in Yukon/Koyukuk Census Area/Denali Borough, Alaska.
FEMA: Hazard Mitigation Assistance (HMA), Building Resilient Infrastructure and Communities (BRIC)	BRIC is an annual competitive pass-through grant program that focuses on reducing the nation's risk by funding public infrastructure projects that increase a community's resilience before a disaster affects an area. BRIC was created in 2020 as part of the Disaster Recovery Reform Act of 2018 and replaces FEMA's legacy Pre-Disaster Mitigation grant program. BRIC funds a wide variety of mitigation activities, including microgrids, flood control, wetland restoration, community relocation/buyouts, seismic retrofits, and nature-based solutions. BRIC is available to state and local agencies and federally recognized tribal governments with a FEMA-approved and locally adopted HMP. In Alaska, the State Hazard Mitigation Advisory Committee (SHMAC), under the guidance of DHS&EM, prioritizes state and local sub-applicants based on the state's mitigation priorities. (See Section 7.3.1 for more information on the SHMAC.) Total funding for BRIC for FY 2022 was $2.295 billion. In 2021 Native Village of Ouzinkie was awarded technical assistance help through BRIC to conceptualize a tsunami shelter project.
FEMA: HMA, Flood Mitigation Assistance (FMA)	FMA is an annual competitive pass-through grant program to reduce or eliminate the risk of repetitive flood damage to buildings insured by the NFIP. FMA funds are available to state and local agencies and federally recognized Tribal governments with a FEMA-approved and adopted HMP. In Alaska, the SHMAC, under the guidance of DHS&EM, prioritizes state and local sub-applicants based on the state's mitigation priorities. Total funding for FMA in FY 2022 was $800 million.

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Type	Overview and State Use
FEMA: HMA, Hazard Mitigation Grant Program (HMGP)	HMGP is pass-through grant program that supports pre- and post-disaster mitigation plans and projects for state and local agencies and federally recognized Tribal governments. HMGP funding is authorized with a Presidential Major Disaster Declaration. A governor or Tribal chief executive may request HMGP funding when submitting a disaster declaration. The amount of funding made available to the applicant is generally 15% of the total federal assistance amount provided for recovery from the Presidential Major Disaster Declaration. Since 2019, the State of Alaska has received HMGP funding associated with the following disasters: Alaska Earthquake (DR-4413-AK, declared on January 31, 2019); Alaska Mckinley Fire (FM-5287-AK, declared on August 20, 1029) and Alaska Deshka Landing Fire (FM-5290-AK, declared on August 22, 2019) which were rolled into DR-5282 to administration purposes; Alaska Covid-19 Pandemic (DR-4533-AK, declared on April 9, 2020); Alaska Severe Storm, Flooding, Landslides, and Mudslides (DR-4585-AK, declared on February 19, 2021); Alaska Severe Storms, Straight-line Winds, Flooding, Landslides, and Mudslides (DR-4638-AK, declared on January 15, 2022); Alaska Severe Winter Storm and Straight-line Winds (DR-4646-AK, declared on March 14, 2022); Alaska Severe Winter Storm and Straight-line Winds (DR-4648-AK, declared on March 24, 2022); Alaska Landslide (DR-4661-AK, declared on July 26, 2022); Alaska Flooding (DR-4667-AK, declared on August 26, 2022); Post Fire (DR-5442, declared June 6, 2022; and Alaska Severe Storm, Flooding, and Landslides (DR-4672-AK, declared on September 23, 2022). In Alaska, the SHMAC, under the guidance of DHS&EM, prioritizes state and local sub-applicants based on the state's mitigation priorities with generally 7% of HMGP funding reserved for local/tribal HMPs.
FEMA: HMA, Hazard Mitigation Grant Program Post Fire (HMGP–Post-Fire)	HMGP–Post-Fire is a pass-through grant program that provides funding for state and local agencies and federally recognized Tribal governments to reduce wildfire risks. Funded projects include (but are not limited to) defensible space initiatives, ignition-resistant construction, hazardous fuels reduction, erosion control measures, slope failure prevention measures, and flash flooding prevention. HMGP–Post-Fire grants are available to eligible states and territories that receive Fire Management Assistance declarations and to federally recognized Tribal governments that have land burned within a designated area. A Post-Fire Presidential Disaster Declaration is not required to activate funding. Funding amounts are determined by FEMA and are based on a national aggregate calculation of historical FMAG declarations over the past 10 years. In Alaska, the SHMAC, under the guidance of DHS&EM, prioritizes state and local sub-applicants based on the state's mitigation priorities. In 2022, FEMA made $786,552 available to the State of Alaska through the HMGP–Post-Fire for the mitigation of future wildfires and related hazards, such as flood after fire or erosion. Some eligible wildfire project types include defensible space measures, ignition-resistant construction, and hazardous fuels reduction.
FEMA: Homeland Security National Training Program	The HSNTP CTG program provides funding via "cooperative agreements to partners to develop and deliver training to prepare communities to prevent, protect against, mitigate, respond to, and recovery from natural, technological and man-made hazards. Including acts of terrorism." For FY 2022, the total amount of HSNTP funds available for CTG

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(HSNTP) Continuing Training Grants (CTG) Program	was $6 million for two focus areas: climate resilience for equitable outcomes and equity in tribal and rural preparedness.
FEMA: National Earthquake Hazard Reduction Program (NEHRP) Earthquake State Assistance Grant Program	There are two types of NEHRP grants: Individual State Earthquake Assistance (ISEA) and Multi-State and National Earthquake Assistance (MSNEA). NEHRP ISEA is a non-competitive grant that funds earthquake safety, mitigation, and resilience activities for states determined to have high or very high earthquake risks. Eligible activities include seismic mitigation planning, critical facility and lifeline inventory and analysis, building code, zoning code and ordinance seismic safety updates, earthquake outreach and education, and promotion of earthquake insurance. Total funding for FY 2022 was $2.15 million. NEHRP MSNEA is an annual competitive grant open to nonprofit organizations and institutions of higher education through research and activities in the fields of earthquake science and engineering. Total funding for NEHRP FY 2022 was $1.39 million.
FEMA: Nonprofit Security Grant Program (NSGP)	NSGPs are annual competitive pass-through grants that provide funding support for target hardening and other physical security enhancement activities to nonprofit organizations that are at a high risk of terrorist attack. The program is designed to promote coordination and collaboration in emergency preparedness activities among public and private community representatives, as well as state and local government agencies. Total funding for NSGP-S in FY 2022 was $125 million.
FEMA: Port Security Grant Program (PSGP)	PSGPs are annual competitive direct grants that provide funding to state, local and private-sector partners to help protect critical port infrastructure from terrorism, enhance maritime domain awareness, improve port-wide maritime security risk management, and main or reestablish maritime security mitigation protocols that support port recovery and resiliency capabilities. Total funding for PSGP in FY 2022 was $100 million.
FEMA: Rehabilitation of High Hazard Potential Dams (HHPDs) Grant Program	The HHPDs Grant Program is an annual competitive pass-through grant program that provides technical, planning, design, and construction assistance for eligible rehabilitation activities (repair, replacement, reconstruction, or removal of a dam) that reduce dam risk and increase community preparedness. The HHDPs Grant Program is available to state agencies and federally recognized Tribal governments in states with a state dam safety program authorized by state legislation. There are several requirements for this grant program, including that each applicant must have FEMA-approved and adopted HMP, must participate in the NFIP, and have ADNR's award approval. Total funding for FY 2022 will be $22 million. There have been no HHDP grants awarded in the state of Alaska since program inception in 2019.
FEMA: State Homeland Security Program (SHSP)	SHSP grants are annual competitive pass-through grants that assist state, local, Tribal, and territorial efforts in preventing, protecting against, mitigating, responding to and recovering from acts of terrorism and other threats. It provides grantees with the resources required for implementation of the National Preparedness System and works

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	toward the National Preparedness Goal of a secure and resilient nation. Allowable costs must have a nexus to terrorism preparedness and fall into the categories of planning, organization, exercises, training, or equipment to building capability, closing capability gaps, and/or sustaining capabilities. Total funding for SHSP in FY 2022 was $415 million.
FEMA: Tribal Homeland Security Grant Program (THSGP)	THSGP is an annual competitive grant to provide funding directly to eligible tribes to strengthen their capacity in preventing, protecting against, mitigating, responding to and recovering from acts of terrorism and other threats. It provides grantees with the resources required for implementation of the National Preparedness System and works toward the National Preparedness Goal of a secure and resilient nation. Allowable costs must have a nexus to terrorism preparedness and fall into the categories of planning, organization, exercises, training, or equipment to building capability, closing capability gaps, and/or sustaining capabilities. Total funding for THSGP in FY 2022 was $15 million. In 2021 the Inupiat Community of the Arctic Slope received $1.78 million.
FHWA: Federal Highways Administration (FHWA) Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program	PROTECT funds projects to "improve the resilience to natural hazards and climate change impacts" by reducing damage and disruption to transportation systems and improving the safety of public travel. It does so through funding projects that improve the resilience of the surface transportation system, including highways, public transportation, ports, and intercity passenger rail. In addition, it also funds nature-based solution for conservation, restoration, and/or construction of riparian and streambed treatments, marshes, wetlands, native vegetation, stormwater bioswales, breakwaters, reefs, dunes, and shade trees along transportation systems. FHWA will seek to award projects to communities that demonstrate a strong need for the funding and will set aside funding for rural communities and Indian Tribes. Total funding for FY 2022 and FY 2023 was $250 million annually with an additional $400 million appropriated. Currently, $300 million is authorized annually for FYs 2024, 2025, and 2026.
National Institute of Standards and Technology and the U.S. National Science Foundation: Disaster Resilience Research Grant (DRRG)	The DRRG is an annual competitive grant program that funds institutional research to improve the ability of buildings, infrastructure, and communities to hold strong against natural hazards. Total funding for this grant program in FY 2022 will be $7.6 million. There have been no DRRG grants awarded in the state of Alaska since program inception in 2020.
National Science Foundation (NSF) grants	The NSF is an independent federal agency that supports fundamental research and education in the non-medical fields of science and engineering. In FY 2021, the NSF awarded $56.05 million in Alaska. Some of this funding was used to support the Fire and Ice project, which is led by UAF. The "fire" part of the project focuses on the boreal forest. Researchers are working to identify drivers of fire weather, map active fire behavior, and evaluate the impacts of wildfire on ecosystem services in affected communities. This project will inform fire management and lead to the development of improved fire-spread

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	models and tools for fire risk evaluation and web-based fire forecasts. In addition, University of Alaska Anchorage's (UAA) Institute of Social and Economic Research is developing a new online wildfire exposure map as part of the National Science Foundation's Arctic Urban Risks and Adaptations.
National Oceanic and Atmospheric Administration (NOAA): Environmental Literacy Program	The Environmental Literacy Program is an annual competitive grant program that focuses on helping communities build environmental literacy around resilience to extreme weather, climate change, and other environmental hazards. NOAA's vision is to help communities understand current conditions, project future changes, and make informed decisions that reduce vulnerability and increase the ability to cope—or mitigate—natural hazards. The Environmental Literacy Program is available to institutions of higher education, public and independent schools and school systems, other nonprofits, state and local agencies, and federally recognized Tribal governments. Total funding for FY 2022 will be $5 million. The Chugach School District was one of 9 out of 237 pre-applicants selected for an Environmental Literacy Award in 2018. The district received $499,888 to "bring together traditional Alaska Native ways of knowing and Western scientific data" to help Alaskan students, teachers, and their communities to build resilience to extreme weather events and other environmental hazards.
NOAA NWS: Tsunami Financial Assistance	Since passage of the Tsunami Warning, Education, and Research Act in 2017 (P.L. 115-25, Title V) and its predecessor legislation in 2007 (TWEA, P.L. 109-479 Title VIII), Congress has authorized and directed NOAA's NWS to provide financial assistance to state and local agencies and federally recognized Tribal governments through the NTHMP. Financial assistance is provided for hazard assessment and mapping, community preparedness, public notification and warning, drills and exercises, and participation in the NTHMP. In FY 2019, DHS&EM (and subgrantee UAF) were awarded tsunami financial assistance to conduct community outreach visits and development of tsunami education materials, travel for the Emergency Management member and Science member of the NTHMP Coordinating Committee to NTHMP meetings and a Powell Center workshop, publish technical reports and Approximate Tsunami Hazard Zone Boundaries for 11 communities in the Kodiak and Aleutian Islands, south-central and southeast Alaska, conduct two-and-a-half day workshop that discusses the science of tsunamis, local threat, preparedness, warning and alerting procedures, as well as response and recovery for community leaders and local emergency managers, publish and present the technical reports for highly threatened communities: Akohok, Chiniak, and Old Harbor, conduct high-resolution mapping and technical reports for Ouzinkie and Port Lions, estimate tsunami currents in two harbors of southeastern Alaska, design and print evacuation brochures for 9 communities, and conduct tsunami siren status checks/evaluation.
NOAA and the National Fish and Wildlife Foundation, and other governmental and private-sector	NCRF is a direct annual competitive grant program that supports the implementation of nature-based solutions to enhance the resilience of coastal communities and ecosystems by reducing the "threats from coastal hazards (such as rising sea- and lake-levels, more intense storms, increasing flooding and erosion, and melting permafrost) to property

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partners: National Coastal Resilience Fund (NCRF)	and key assets, such as hospitals and evacuation routes." The NCRF funds nature-based solutions including restoring coastal marshes, reconnecting floodplains, rebuilding dunes or other natural buffers, and installing living shorelines. NCRF grants are available to state and local agencies and federally recognized Tribal governments within the coastal areas of the United States. Total funding for NCRF for FY 2022 will be $140 million. In 2018, the Alaska Native Tribal Health Consortium was awarded $2.7 million to decommission 12 houses and all associated infrastructure to restore 3 acres of coastal wetland habitat in Newtok, Alaska. In 2019, the Agviq Environmental Services received $215,000 to identify and assess potential shoreline sites at risk to coastal erosion, flooding, and storm surge for adaptation and to develop resiliency projects in and around Point Hope, Alaska. Also in 2019, the Native Village of Shaktoolik was awarded $1.0 million to build a nature-based storm surge berm. In 2020, the Alaska Native Tribal Health Consortium received $1.3 million to provide adaptation planning and development of coastal erosion and flood hazard mitigation and restoration solution support for 44 Alaskan Resilience Hub communities.
Natural Resources Conservation Service (NRCS): Watershed Programs	The NRCS Watershed Programs provides technical and financial assistance to help implement conservation practices that address watershed resource concerns through the following programs: Emergency Watershed Protection (EWP) Program: The EWP Program offers technical and financial assistance to help relieve imminent threats to life and property caused by floods, fires, windstorms, and other natural disasters that impair a watershed. EWP grants are available to local agencies, conservation districts, federally recognized Tribal governments, and interested public and private landowners that have a sponsor. EWP does not require a disaster declaration by the federal or state government. In Alaska, federally recognized Tribal governments are often the primary local sponsors requesting federal assistance through EWP. Over the past 11 years, NRCS has completed EWP projects in 24 Alaska communities. Most recently, in 2020, NRCS provided EWP assistance to two federally recognized tribes in rural Alaska to relocate homes threatened by rapid riverbank erosion. Watershed Protection and Flood Prevention (WFPO) Program: The WFPO Program provides technical and financial assistance to help plan and implement watershed programs, including flood prevention. It is available to state and local agencies and federally recognized Tribal governments and for watersheds that are 250,000 acres and smaller. Watershed Rehabilitation Program (REHAB): REHAB provides technical and financial assistance to rehabilitate aging dams that are reaching the end of their design life and/or no longer meet federal or state safety criteria or performance standards or build or augment existing water supplies based on current and future water supply demands. In 2022, NRCS received $918 million of Bipartisan Infrastructure Law funding to allocate through its watershed programs.
Office of Wildland Fire: Burned Area Rehabilitation (BAR) Program	The BAR Program supports efforts to repair or improve burned landscapes unlikely to recover without human assistance. The program, which must be implemented within the first 5 years after a fire, "jump-starts" the landscape

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	recovery process by spreading native plant seeds or planting native seedlings, applying herbicides to kill invasive plants, removing them by hand, or introducing bacteria to control them, and using heavy equipment to disrupt the growth of targeted plant species or contour landscapes to control runoff. This program also funds the repair or replacement of minor infrastructure damaged by a wildfire, such as small trail bridges, handrails, campgrounds, boat ramps, stock tanks, or informational kiosks. Although BAR's scope of work is limited to federally managed lands only, in Alaska approximately 65% of the land is owned and managed by the United States Federal Government as public lands. Total funding for BAR in FY 2021 was $20.5 million.
Office of Wildland Fire: Fuels Management Program	The Fuels Management Program supports the "strategic removal of grasses, shrubs, and trees to restore and maintain ecosystems and limit the negative impacts of wildfires." This support is achieved through such activities as deliberately prescribed fire, thinning forested areas with chainsaws or heavy equipment, removing brush and small trees by hand, reducing the quantity of grasses and shrubs mechanically or by placing domestic, grazing animals (e.g., cows, goats) on a landscape, and chemically treating an area overgrown with invasive plants using herbicides. Similar to the BAR Program, the Fuels Management Program is limited to federally managed lands only. In September 2022, $3.3 million in funding from the DOI's wildland fire management investments was allocated to fuel treatments for 8,000 acres of "high wildfire hazard potential" areas in Alaska.
United States Army Corps of Engineers (USACE): Civil Works Program	The USACE Civil Works Program funds studies and projects to maintain existing infrastructure and to repair damage and dredge channels in response to floods and coastal storms. For FY 2022, the USACE will utilize $22.81 billion in supplemental funding from the Infrastructure Investment and Jobs Act (also known as the Bipartisan Infrastructure Law) and 2022 Disaster Relief Supplemental Appropriations Act. Over $5 billion will be used to improve community resilience to climate change. In January 2022, the Alaska District's Civil Works Program was awarded $940.7 million by the USACE Civil Works Program to fund critical civil works projects, including the Lowell Creek Flood Diversion Project, the Moose Creek Dam Safety Modification Project, the Kenai River Bluffs Erosion Project, and the Barrow Alaska Coastal Erosion Project.
USACE: Corps Water Infrastructure Financing Program (CWIFP)	The USACE Corps Water Infrastructure Financing Program (CWIFP) is authorized by the Water Infrastructure and Finance Innovation Action to "enables local investment in infrastructure projects that address community water resource needs, promote economic prosperity, and improve environmental quality." Currently, CWIFP provides up to $7.5B+ in loans for maintaining, upgrading and repairing dams for any non-Federal borrowers.
United States Department of Housing and Urban Development (U.S. HUD): Community	CDBG-DR grants helps state and local agencies and federally recognized Tribal governments recover from Presidentially declared disasters, especially in low-income areas, subject to availability of supplemental appropriations. CDBG-DR funds a broad range of recovery activities, but each activity must address a direct or indirect impact from the disaster in a most-impacted and distressed area, be a CDBG-eligible activity, and meet a national objective

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Development Block Grant–Disaster Recovery (CDBG-DR)	(combating climate crisis and advancing equity). Grantees must ensure that their activities align with the mitigation strategy of their State Hazard Mitigation Plan (SHMP). In 2022, HUD allocated nearly $3 billion in CDBG-DR funds for major disasters occurring in 2020 and 2021. In response to the 2018 Cook Inlet Earthquake (DR-4413) in January 2020, HUD allocated $35.86 million CDBG-DR funds into the state of Alaska to address unmet housing needs. HUD identified the Municipality of Anchorage, the Matanuska-Susitna Borough, and the Kenai Peninsula Borough as the only CDBG-DR-eligible jurisdictions in their entirety and identified the Municipality of Anchorage as the "most impacted and distressed" area. The State of Alaska is using the funds for the relocation of households to safer areas, affordable housing, other unmet housing needs, and planning activities to aid in regional recovery. The CDBG-DR program is operated under the oversight of the DCRA.
U.S. HUD: Community Development Block Grant–Mitigation (CDBG-MIT)	CDBG-MIT provides funding for mitigation activities that "increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters." In response to DR4413, HUD allocated an additional $2.29 million in CDBG-MIT grants to the State of Alaska in January 2021. Specifically, $1.1M was allocated to the Municipality of Anchorage and another $1.1M to the Matanuska-Susitna Borough and the Kenai Peninsula Borough. Unlike other forms of federal disaster recovery assistance, CDBG-DR and CDBG-MIT grants have "a statutory focus on benefiting vulnerable lower-income people and communities and targeting the most impacted and distressed area," which HUD designated for the Municipality of Anchorage. The CDBG-MIT program is operated under the oversight of DCRA. As the lead administrative agency, DCRA has developed a CDBG-MIT Action Plan (draft, November 2022) to "provide an in-depth analysis of current and future risks to the State, as well as propose a high-level strategy for how the funding will be used to address these risks and disaster mitigation needs in eligible jurisdictions."
United States Environmental Protection Agency (US EPA): Wetland Program Development Grants (WPDG)	WPDGs promote "the coordination and acceleration of research, investigations, experiments, training, demonstrations, surveys and studies relating to the causes, effects, extent, prevention, reduction and elimination of water pollution." The program is meant to build capacity to both increase the quantity and quality of wetlands in the U.S. by conserving and restoring wetland acreage and improving wetland condition. WPDGs eligibility is dependent on grant cycle and can include state and local agencies, federally recognized Tribal governments, non-profits (including non-profit universities), non-governmental organizations, interstate agencies, and intertribal consortia. Alaska has been the recipient of several WPDGs including Sitka Tribe of Alaska Wetlands Program Plan Development, AUU Wetland Map Development for the Matanuska-Susitna Basin and Alaska Department of Natural Resources – Alaska Wetland Collaborative.
United States Fish and Wildlife Service (USFWS): National Coastal	The NCWC Grants Program is an annual competitive grant program through the USFWS to fund projects that protect, restore, and enhance coastal wetland ecosystems and associated uplands. Grants range from $50,000 to $1 million and

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Type	Overview and State Use
Wetlands Conservation (NCWC) Grants Program	are available to eligible state agencies (which often collaborate with land trusts, tribes, conservation organizations, and other entities to plan and "deliver the conservation outcomes"). The total funding for the NCWC Grants Program for FY 2022 was $20 million. In April 2021, the State of Alaska (Department of Natural Resources) was awarded an NCWC grant of $340,000 to acquire and protect 0.44 square mile of coastal wetland habitat in the Kasilof River Flats, including 2.25 miles of river shoreline. This project will not only protect and provide habitat for wildlife but will help prevent erosion of the dunes, thereby reducing the chances of lowland area flooding.
United States Forest Service (USFS): Community Wildfire Defense Grant (CWDG)	The CWDG, funded through the Bipartisan Infrastructure Law, is intended to help at-risk local communities and tribes reduce their risk from wildfire. The grant provides funding for two types of projects: the development and revision of Community Wildfire Protection Plans (CWPPs) and the implementation of projects described in CWPPs that were written less than 10 years ago. Priority is given to at-risk communities in an area that is identified as having high or very high wildfire hazard potential, low income, and/or has been impacted by a severe disaster.

5.3 OBSTACLES, CHALLENGES, AND SOLUTIONS TO ALASKA'S HAZARD MITIGATION CAPABILITIES

A major obstacle to hazard mitigation in Alaska is that not all I-Codes are adopted and/or enforced statewide. Local jurisdictions may have their own residential codes to follow, and the Alaska Housing Finance Corporation adopts the IRC for its residential standard and the IECC for its Building Energy Efficiency Standard. However, if a residential building is built outside of a jurisdiction with a residential code and without financing, it may not be built to meet the basic requirements of the IRC. In addition to lack of code adoption, there is limited code enforcement in Alaska. Many rural Alaskan communities lack the personnel and technical experience to carry out code enforcement responsibilities. One solution to overcoming the lack of code adoption would be to have greater public outreach around the importance of the IRC and IECC.

As noted previously, another major obstacle is the lack of participation in the NFIP. In Alaska, many jurisdictions are ineligible to join the NFIP due to their inability to adopt and enforce a flood damage prevention ordinance. The 2022 Alaska Mapping Business Plan notes that the inability of many jurisdictions to adopt and enforce flood damage prevention ordinances is of concern because most of Alaska's federally declared disasters involving flood or severe storm events have occurred in the Unorganized Boroughs within the Bethel, Kusilvak, and Yukon-Koyukuk census areas, where there are no residential building codes or flood damage prevention ordinances. Within these three census areas, only 9 of the 87 Alaska Native villages participate in the NFIP. More than half of the villages within these census areas are ineligible to participate in the NFIP. Similar to the lack of I-code adoption, one solution to overcoming the lack of code adoption would be to have greater public outreach around the importance of the NFIP.

Another challenge to hazard mitigation in Alaska is the lack of accurate, statewide hazard data to support mapping, planning, and policy mitigation strategies and risk communication. These gaps are often extensive because of the challenges of collecting data in vast remote and cold environments. To overcome these gaps, in recent years:

- The Alaska Earthquake Center has partnered with DGGS and DHS&EM to evaluate and map potential tsunami inundation by using numerical modeling of tsunami wave dynamics. Communities are selected for mapping based on their tsunami hazard exposure, location, infrastructure, availability of data, and "willingness to incorporate the results into a hazard mitigation plan."
- DGGS, through its Coastal Hazards Program, has worked to address the lack of hazard data by developing erosion and flood forecasts for Alaska communities. To date, DGGS has mapped and developed detailed erosion reports for nearly 50 Alaska coastal communities. In addition, DGGS is creating similar assessments for floods and has completed community flood assessments for two communities, with similar assessments planned for other communities.
- UAA's Institute of Social and Economic Research is currently creating new online maps that show wildfire impact. Maps are available statewide, minus Southeast Alaska and the Aleutian Islands. Site-specific maps are also available for the Municipality of Anchorage, Maps are available for the Anchorage, Fairbanks and Whitehorse.
- TUSFWS's National Wetlands Inventory program is currently working to map nearly 200 million acres of wetlands, including communities in the Yukon-Kuskokwim Delta that experience coastal and riverine flooding. The USACE and USFWS, along with other stakeholders, are using this data to create community-specific maps with the goal of informing future development and floodplain management planning decisions.

5.3.1 Changes in Alaska's Hazard Mitigation Capabilities since the 2018 SHMP

Since the preparation of the 2018 HMP, the following changes have occurred to Alaska's hazard mitigation capabilities:

- A mitigation planning database has been developed to store information from every local and tribal HMP they had on file and retrieve data in an online community table/report.
- Wetland maps specific to the City of Bethel, the Village of Aniak, and the Native Village of Napaimute of the Yukon-Kuskokwim Delta have been created using the National Wetlands Inventory geodatabase.
- State and local practitioners have been trained on Alaska-specific ice jam issues using USACE Cold Regions Research and Engineering Laboratory information.
- AURA has been created to addresses changing environmental hazards around Anchorage, Fairbanks, and Whitehorse through community involvement and the development wildfire impact mapping and assessment tools. Lower resolution wildfire impact maps have also been created statewide.
- The following building codes have been adopted: 2021 IBC, 2021 IEBC, 2018 IECC, 2021 IFC, 2021 IFGC, 2021 IMC and 2018 IRC.
- The Alaska Volcano Observatory now has approximately 200 stations installed to monitor Alaska's volcanoes with ground-based geophysics, including seismometers, infrasound sensors, webcams, and GNSS monuments.
- Tsunami inundation maps and a mobile-friendly tsunami hazard map tool have been created for 27 at-risk communities.
- Community erosion assessments have been created for 50 communities and community flood assessments have been developed for two communities.
- The City of Kenai joined the NFIP.