

9. Mitigation Strategy

9.1. OVERVIEW

The mitigation strategy provides the blueprint for implementing desired activities that will enable Alaska communities to continue to save lives and preserve infrastructure by systematically reducing hazard impacts, damages, and community disruptions. The mitigation strategy is divided into five steps:

1. Evaluate the state's hazard management policies, programs, capabilities, and funding sources to mitigate the hazards identified in the risk assessment
2. Describe and analyze local and tribal mitigation policies, programs, and capability effectiveness
3. Describe the process to support the development of approvable local and tribal, as applicable, mitigation plans
4. Describe funding prioritization criteria
5. Describe process and timeframe for local and tribal HMP review, coordination, integration within the SHMP
6. Address Repetitive Loss elements

DMA 2000 and its state implementing regulations for a comprehensive mitigation strategy include:

DMA 2000 Requirements
STANDARD. State Mitigation Capabilities
S12. 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)]
S13. Does the plan generally describe and analyze the effectiveness of local and tribal, as applicable, mitigation policies, programs, and capabilities? [44 CFR §201.4(c)(3)(ii)]
S14. Does the plan describe the process to support the development of approvable local and tribal, as applicable, mitigation plans? [44 CFR §§201.3 (c)(5) and 201.4(c)(4)(i)]
S15. Does the plan describe the criteria for prioritizing funding? [44 CFR §201.4(c)(4)(iii)]
S16. Does the plan describe the process and timeframe to review, coordinate and link local and tribal, as applicable, mitigation plans with the state mitigation plan? [44 CFR §§201.3(c)(6), 201.4(c)(2)(ii), 201.4(c)(3)(iii), and 201.4(c)(4)(ii)]
Source: FEMA, March 2015

and

DMA 2000 Requirements
STANDARD STATE. Repetitive Loss (RL) Strategy
RL2. Did Element S8 (mitigation goals) address RL and SRL properties? [44 CFR §§201.4(c)(3)(i) and 201.4(c)(3)(v)]
RL3. Did Element S9 (mitigation actions) address RL and SRL properties? [44 CFR §§201.4(c)(3)(iii) and 201.4(c)(3)(v)]
RL4. Did Element S10 (funding sources) address RL and SRL properties? [44 CFR §§201.4(c)(3)(iv) and 201.4(c)(3)(v)]
RL5. Did Element S13 (local and tribal, as applicable, capabilities) address RL and SRL properties? [44 CFR §§201.4(c)(3)(ii) and 201.4(c)(3)(v)]
RL6. Did Element S15 (prioritizing funding) address RL and SRL properties? [44 CFR §§201.4(c)(4)(iii) and 201.4(c)(3)(v)]
Source: FEMA, March 2015.

The Hazard Mitigation Strategy overview defines how the state strives to implement processes that will fulfill the State's needs, while integrating, state, local, and tribal, as well as FEMA programs and initiatives throughout the SHMP update processes.

The State of Alaska is committed to supporting local mitigation planning efforts. There are currently 120 FEMA-approved hazard mitigation plans with an additional 25 that are "Approvable Pending Adoption." DHS&EM's normal annual planning cycle includes 10 city/tribal plans. The state projects eight plans for the 2017 PDM planning cycle that will contain several borough-level multi-jurisdictional plans. The fiscal year 2014 PDM cycle contained 21, and the 2015 PDM cycle contained 25 update or new plans. Many of these boroughs, cities, and tribes were in rural locations with no community planning assets. The state assisted these communities by providing contractors to guide local planning teams while drafting, compiling, and completing a FEMA-approvable hazard plan with the ultimate goal to use the plan to spur a comprehensive and deliberate planning approach. This methodology leads to jurisdictional staff capacity along with the future potential to reduce historic disaster losses.

9.2. STATE, LOCAL AND AGENCY COORDINATION AND MITIGATION CAPABILITY AND FUNDING RESOURCES

The Alaska's constitution provides a very diverse self-governance structure. Therefore, "formal" planning and land management capabilities throughout Alaska's borough, city, and tribal governments vary widely due to their respective constitutional authorities. Possible strengths and limitations include available funding, local staffing capacity, and resource capabilities. Each of these strengths or limitations could facilitate or restrict implementing and integrating FEMA, state, local, and tribal hazard mitigation actions and initiatives.

Alaska communities work closely with state agencies and their staff, such as the DCRA, DHS&EM, DEC, DOT/PF, and DHSS to help guide them through specific subject matter planning and project activities. Most also receive funding, as well as project development and implementation guidance from these same agencies. Available resources in these areas are continually assessed by DHS&EM hazard mitigation planning team to determine how to deliver the most appropriate technical assistance that would best fulfill their needs.

9.2.1. CAPABILITY ASSESSMENT

DHS&EM Core Capabilities

The Core Capabilities, Mission Areas describe how the DHS&EM addresses rural community resilience and mitigation challenges:

Planning

- **Mission Areas:** All
- **Description:** Conduct a systematic process engaging the whole community as appropriate in the development of executable strategic, operational, and/or community-based approaches to meet defined objectives

Community Resilience

- **Mission Area:** Mitigation
- **Description:** Lead the integrated effort to recognize, understand, communicate, plan, and address risks so that the community can develop a set of actions to accomplish Mitigation and improve resilience.

Long-Term Vulnerability Reduction

- **Mission Area:** Mitigation
- **Description:** Build and sustain resilient systems, communities, and critical infrastructure and key resources lifelines so as to reduce their vulnerability to natural, technological, and human-caused incidents by lessening the likelihood, severity, and duration of the adverse consequences related to these incidents.

Risk and Disaster Resilience Assessment

- **Mission Area:** Mitigation
- **Description:** Assess risk and disaster resilience so that decision makers, responders, and community members can take informed action to reduce their entity's risk and increase their resilience.

Threats and Hazard Identification

- **Mission Area:** Mitigation
- **Description:** Identify the threats and hazards that occur in the geographic area; determine the frequency and magnitude; and incorporate this into analysis and planning processes so as to clearly understand the needs of a community or entity."

Source: DHS&EM

Statewide Resources

Tables 9-1 provides a snapshot of federal and state agency plans and authorities, regulatory tools, and technical resources available for project management.

Table 9-1 Agency Plans and Regulatory Tools

Regulatory Tools (ordinances, codes, plans)	Comments
Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Section 322	New hazard mitigation planning and implementation initiative
Title 42 of the U.S. Code [USC] 5121, Section 322	(b)(5) encourages hazard mitigation measures to reduce losses from disasters, including development of land use and construction regulations
Disaster Mitigation Act of 2000	Amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act to authorize a program for pre-disaster mitigation, to streamline the administration of disaster relief, to control the Federal costs of disaster assistance, and for other purposes
Code of Federal Regulations, Title 44, Chapter 1, Emergency Management and Assistance	Guides emergency management and assistance programs
44 CFR Section 201, Mitigation Planning	Defines HMP development requirements
Alaska Statute 26.23.040 and 060	Fulfills requirement to assist jurisdictions with mitigation disaster impacts
Alaska Administrative Order 175	Tasks DHS&EM To maximum extent possible, consistent with existing law, all state agencies with construction authority, or that administer grants, loans, or disaster assistance for construction, shall use pertinent portions of the FEMA National Flood Insurance Program regulations, 44 CFR Part 60, as a guide for such construction activities, and shall encourage a broad and united effort to lessen the

Table 9-1 Agency Plans and Regulatory Tools

Regulatory Tools (ordinances, codes, plans)	Comments
	risk of flood and erosion losses in connection with state lands and installation and state-financed or supported improvements.. (https://gov.alaska.gov/admin-orders/175.html)
SHMP Appendices	SHMP Section 13 Appendices
<ul style="list-style-type: none">DHS&EM Standard Operating Procedures	Appendix 13.14
<ul style="list-style-type: none">Existing Hazard Mitigation Plans	Appendix 13.17
<ul style="list-style-type: none">State Administrative Orders	Appendix 13.22
<ul style="list-style-type: none">Potential Agency Funding Resources	Appendix 13.24

DHS&EM strives to pursue strict regulatory compliance. To that end the agency uses the following audits and inspection resources to assure they fulfill programmatic criteria (Table 9-2).

Table 9-2 Agency Audit and Inspection Resources

Audits or Inspections	Description
DHS&EM Project and Disaster Specific Internal Audits and Project Status Monitoring	The DHS&EM's grant administrators and emergency management specialists (EMS's) project managers monitor and perform internal audits with every reimbursement request. The EMS audit reimbursements when routing for payment approval.
State Legislative Audit	Conducts Operations and Management Budget (OMB) compliance audits
Federal Agency Audits	Review grant projects based on their programmatic guidelines and as required by CFR Part 200.328, and applicable OMB Circulars
FEMA	Regulatory compliance audits
NOAA	Regulatory compliance audits

9.2.2. MITIGATION POLICIES, PROGRAMS, AND CAPABILITIES

9.2.2.1. COMPLIANCE, MONITORING, AND AUDITS:

Internal Division

DHS&EM Mitigation Section and Grants Section staff monitors each HMGP and PDM project award along with the HMGP disaster or PDM funding cycle funding the projects. This is done through the following:

- Division quarterly project reports,
- Program check lists,
- Funding and performance data-base tracking within the internal division and with the Division of Administrative Services.

The division also provides a sub-grantees handbook via the division website to enable grant recipients to provide accurately documentation progress and financial reports.

State

The State of Alaska, Inspector General's Office auditors perform annual or as-needed program and grant audits to ensure compliance and Single Audit Act reporting.

Federal Funding Accountability and Transparency Act (FFATA): the division, through the Division of Administrative Services reports all federal funding awards into the FFATA website to facilitate public visibility for associated federal funds.

Federal

The FEMA, Region 10 Grants Program Division conducts annual monitoring visits on each HMGP and PDM project award along with the HMGP disaster or PDM funding cycle funding the projects. FEMA audits are conducted on an as-needed basis. FEMA compliance and audit reports are provided to the division following each monitoring or audit.

9.2.3. LOCAL AND TRIBAL HMP DEVELOPMENT PROCESSES

9.2.3.1. CURRENT JURISDICTION HMP STATUS

FEMA provides a monthly HMP status report (Table 9-3) and tribal HMP state report (Table 9-4). The current report is accurate as of August 20, 2018. The reports states whether these plans are approved and in-force, pending adoption, in-review, awaiting revision, update in progress, or expired.

Table 9-3 Alaska Jurisdictional HMP Status Report - FEMA

<i>Alaska State: Status of Mitigation Plans Dashboard as of 8/20/18</i>			
<i>Total Approved Plans</i>	<i>113</i>	<i>Total Plans expiring within 1 month</i>	<i>2</i>
<i>Total Plans Pending Adoption</i>	<i>35</i>	<i>Total Plans expiring between 1-6 months</i>	<i>13</i>
<i>Total Plans In Review</i>	<i>0</i>	<i>Total Plans expiring between 6-12 months</i>	<i>6</i>
<i>Total Plans Awaiting Revisions</i>	<i>5</i>	<i>Total Plans expiring between 12-24 months</i>	<i>10</i>
<i>Total Plans In Progress</i>	<i>8</i>	<i>Total Plans expiring beyond 24+ months</i>	<i>49</i>
<i>Total Expired Plans</i>	<i>58</i>		
<i>Total LHMPs in Report:</i>	228		

Source: FEMA 2018

Table 9-4 Alaska Tribal HMP Status Report - FEMA

<i>Alaska State: Status of Mitigation Plans Dashboard as of 8/20/18</i>			
<i>Total Approved Plans</i>	<i>30</i>	<i>Total Plans expiring within 1 month</i>	<i>1</i>
<i>Total Plans Pending Adoption</i>	<i>9</i>	<i>Total Plans expiring between 1-6 months</i>	<i>0</i>
<i>Total Plans In Review</i>	<i>0</i>	<i>Total Plans expiring between 6-12 months</i>	<i>2</i>
<i>Total Plans Awaiting Revisions</i>	<i>5</i>	<i>Total Plans expiring between 12-24 months</i>	<i>6</i>
<i>Total Plans In Progress</i>	<i>6</i>	<i>Total Plans expiring beyond 24+ months</i>	<i>38</i>
<i>Total Expired Plans</i>	<i>1</i>		
<i>Total THMPs in Report:</i>	<i>51</i>		

Source: FEMA 2018

9.2.3.2. FUTURE HMP DEVELOPMENT AND SELECTION PROCESSES

Planning Considerations, Rationale, and Criteria

- History or risk of disaster damage (Disaster Cost Index, Hazard & Risk Assessments, State Hazard Mitigation Plan, DHS&EM Experience)
- Full-time residents/population (Threshold for inclusion is roughly 100)
- Level of government: borough, first class city, second class city, etc.
- Community interest in mitigation planning and projects
- Significant infrastructure
- Plan will address multiple hazards which may include seismic, flood, ground failure, wildland fire, etc.
- Location in state (geographical grouping for contract efficiency and value)
- Unplanned communities in a federally declared disaster area will be considered for immediate planning priority through HMGP (7percent for planning initiative).

Note: Mitigation planning policies and standard operating procedures are located in Appendix 13-14

1. Planning Initiatives

- Mitigation planning will be done primarily through PDM
 - State-managed planning will be funded through a state contract paid for through PDM (75 percent FEMA and 25 percent State match). This will follow the 5-year list for community planning.
- DHS&EM focuses HMGP funds into construction projects striving to reduce disaster damages and losses. However, planning may be funded through HMGP on a “case by case” basis upon considering:
 - Priority: Mitigation planning becomes essential after the community experiences recent disaster losses.
 - Advisable need: Special community circumstances warrant mitigation planning.
- Organized boroughs school districts will be included within their borough mitigation plan for project and planning eligibility.
- Unorganized boroughs’ school districts will be included within the State Hazard Mitigation Plan for project and planning eligibility.

2. Plan Updates

- Updates will ordinarily be funded through PDM or local funds, not HMGP
 - It is essential that communities show a desire to develop a hazard mitigation plan and to be engaged (“buy-in”) throughout the new or update HMP development process. Interest and commitment can be demonstrated by funding HMP development through local funding or by providing the PDM 25 percent cost share. Rural and impoverished communities may qualify to have their cost share (match) reduced to 10 percent using local funds, direct legislative appropriations, or by obtaining other funds.

3. Grant Funding for Mitigation Plan Studies

- Specialized stand-alone studies are not funded. However, those that improve the communities' hazard mitigation plans and lead to specific, identified “brick and mortar” mitigation projects, will be prioritized for grant funding.

State LEPC's and Mitigation Planning

State Local Emergency Planning Committees (LEPC's) assist with local hazard mitigation planning through:

- Providing a forum for annually reviewing local mitigation plans within their membership area.
- Providing a forum for communities to pursue information gathering within their jurisdictions that are undertaking hazard mitigation planning.
- Providing a forum for review and input when communities within their jurisdictions are undertaking their required 5-year hazard mitigation plan update.

State Hazard Mitigation Advisory Committee (SHMAC)

The State Hazard Mitigation Advisory Committee (SHMAC) originated in 2002 when DHS&EM was tasked with developing the first DMA 2000 compliant state hazard mitigation plan that replaced the Stafford Act's 409 Plan. The SHMAC's mission is to advise DHS&EM by guiding SHMP development and project prioritization. SHMAC participation seeks to assist participant agencies with achieving their respective disaster mitigation goals. SHMAC members are identified by their agencies as either having decision-making authority, or reporting directly to those who do. They represent the following departments or agencies:

- Department of Military and Veterans Affairs / DHS&EM (Chair)
- Department of Environmental Conservation
- Department of Natural Resources
- Department of Public Safety
- Department of Transportation and Public Facilities
- Department of Administration / Risk Management
- Department of Community and Economic Development
- Department of Health and Social Services
- Department of Law
- Office of Management and Budget (Director)
- Governor's Office / Governor's Authorized Representative (GAR)

Note: Other departments or agencies participate as required based on the disaster event.

State Local Mitigation Plan Reviews

- Community hazard mitigation plans submitted to DHS&EM, will be reviewed within 2 weeks of receipt. Following DHS&EM review, the plan will either be returned to the community for revision, or forwarded to FEMA for review.

9.2.4. MITIGATION PROJECT AND FUNDING PROCESSES

9.2.4.1. HAZARD MITIGATION ASSISTANCE (HMA) APPLICATIONS

General Selection Criteria

The following general criteria are used by the State Hazard Mitigation Officer (SHMO) in selecting and prioritizing applications for hazard mitigation financial assistance.

- Consistency with the goals and priorities established in the State Hazard Mitigation Plan
- Consistency with the goals and priorities established in the applicant's local Hazard Mitigation Plan
- History or risk of disaster losses in the community based upon the Alaska Disaster Cost Index, hazard and risk assessments, the State Hazard Mitigation Plan, and DHS&EM experience
- The project's role in mitigating losses (including RL/SRL) to critical facilities and infrastructure
- The community's interest in mitigation planning and long-term mitigation actions
- The jurisdiction's grant compliance history
- The community's population, level of government, and ability to take independent mitigation actions

Grant Specific Selection Processes

Disaster Funded, Hazard Mitigation Grant Program (HMGP)

State mitigation team members will travel to disaster areas and search for appropriate mitigation opportunities (Public Assistance 406 Mitigation and Robert T. Stafford Disaster Relief and Emergency Assistance Act 404 Mitigation).

Following a federal disaster declaration, DHS&EM announces that HMGP funding opportunity is available statewide to local jurisdictions, IRA tribes, and state agencies. The announcement explains HMGP eligibility criteria, necessity of submitting an "Intent to Apply" form, application submittal instructions and content, and the disaster period's application submittal deadlines.

HMGP applicant briefings are held in the most appropriate declared disaster area in conjunction with FEMA and State Public Assistance (PA) briefings. HMGP briefings are provided to other potential applicants around the state as requested. Potential applicants with formally adopted and approved hazard mitigation plans and those with previously identified mitigation projects in their local hazard mitigation plans are recruited to produce HMGP applications. DHS&EM's staff provides technical assistance to applicants developing their project applications.

Submitted "Intent to Apply" forms are screened by the State mitigation staff for applicant and project eligibility and feasibility. State mitigation staff assist each eligible applicant with project development while ineligible projects are guided to other resources.

Complete HMGP applications are forwarded SHMAC review. The DHS&EM guides the SHMAC with determining the merit as to how each project application's mitigation approach meets the SHMP's mitigation goals including RL/SRL initiatives. The SHMAC then jointly ranks each project application for funding priority.

Note: This ranking system is most needed when the number of eligible project applications exceeds available funds. Those that are not selected are filed and potentially funded when previous selected applications cannot be implemented, or when subsequent disaster grants become available.

The SHMO submits the SHMAC's prioritized project application list to the GAR. The GAR then reviews applications and their respective ranking against State priorities and available funding, and subsequently approves for FEMA submittal.

The SHMO then submits the approved applications to FEMA for review and funding.

Non-Disaster Hazard Mitigation Assistance (HMA) Grants Including the Pre-Disaster Mitigation (PDM) Grant Program

Following the opening of FEMA's HMA Pre-Disaster Mitigation (PDM) application period, DHS&EM announces the nationally competitive PDM funding opportunity statewide to agencies, local governments, and IRA tribes. The announcement explains PDM eligibility criteria, the necessity of submitting an "Intent to Apply" form, application submittal instructions and content, and disaster period's application submittal deadlines.

The State conducts PDM briefings upon request. DHS&EM submits a State application for potential construction project applicants with previously identified mitigation projects in their local hazard mitigation plans. These applicants are recruited to produce PDM applications. PDM project applications must include as appropriate all required engineering drawings, plans, maps, and photos as well as environmental impact statements. Applicants are provided with technical assistance throughout application development.

Submitted "Intent to Apply" forms are screened by the State mitigation staff for applicant and project eligibility, and feasibility. State mitigation staff assists each eligible applicant with project development while ineligible projects are guided to other resources.

Complete PDM applications are forwarded SHMAC review. The DHS&EM guides the SHMAC with determining the merit as to how each project application's mitigation approach meets the SHMP's mitigation goals including RL/SRL initiatives. The SHMAC then jointly ranks each project application for funding priority.

The SHMO then submits each of the PDM sub-grant applications within the State's PDM grant application to FEMA for funding under the HMA program. FEMA reviews planning and project applications for eligibility and completeness. FEMA subsequently makes funding decisions based on the agency's priorities for the most effective use of available grant funds posted on Grants.gov and its Notice of Funds Opportunity announcement. The PDM program is a highly competitive grant program.

Note: See Appendix 13.14 DHS&EM Standard Operating Procedures

NOAA (Department of Commerce) Funded Grants

NOAA grant funding applications are evaluated based upon similar, general selection criteria listed above as they pertain to NOAA's specific grant programs' guidance.

State Hazard Mitigation Grants

Applications for State hazard mitigation grants are evaluated based upon the general selection criteria listed above as well as the State's specific grant program guidance. Priority is given to projects that are deemed to be effective mitigation by the SHMO and selected mitigation staff

panel; potential agencies determine their viability and the project's mitigation effectiveness. The project would not be eligible for funding under FEMA grant requirements.

State Mitigation Prioritization Process

Prior to DHS&EM's Resilience Section developing the "Community Score Methodology," database; the state held a State Hazard Mitigation Advisory Committee (SHMAC) meeting quarterly, as warranted, to prioritize projects. The SHMAC validated each project's potential effectiveness and priority.

The "Community Score Methodology," database assigns a numerical value that contains 12 areas as well as the associated risk values (Figure 9-2). Those values translate to a numerical value that ranks each city and factors in the mitigation and outreach effort and the project's subsequent priority. The cities are divided into categories by effort priority. The highest category communities are deemed to have significant risk. The lowest category a city can achieve is minimal risk. The ranking system provides the State with an overall picture of where to address needs within the state based on community metrics.

DHS&EM's Resilience Section database provides a thorough analysis of all communities based on vulnerability. The data used to assign a ranking is derived from outside sources and is not influenced by the DHS&EM. Using

Alaska Remote Community Challenges:

DHS&EM strives to address Alaska's remote community challenges during grant application development by ensuring communities:

- Describe their specific challenges associated with shipping goods to their location such as severe weather conditions, barging, port availability, community access, river navigability, distance, materials costs, experienced labor costs, outside area payroll rate requirements etc.
- Describe their geographical separation, minimal road access, bridge or airport availability (to assure safe travel across large rivers and to/from other jurisdictions), and other barriers that prevent evacuation or other disaster response capabilities if faced with natural hazard induced damages.
- Describe how the community is distressed or located within an imperiled area of the state.
- Describe any language barriers, need for translation into native languages, or any limiting capacity such as qualified office staffing, office staff or leadership turn-over, or an extremely transient population.
- Define how the jurisdiction, tribe, and/or impoverished community is unable to generate funds to enable them to meet project cost (25 percent) matching.
- Define how NFIP participating communities identify and track RL/SRL property impacts and disaster damage claims to fulfill FEMA criteria.

Note: There are only 31 NFIP participating jurisdictions (boroughs and cities) out of approximately 200 (depending on how they are counted).

Note: Non NFIP participant jurisdictions (cities and/or tribes) are not required to track RL/SRL properties. Neither do they have RL/SRL property lists that fulfill NFIP criteria.

Note: See Section 8.4 NFIP participant

FEMA and Other Mitigation Programmatic Funding Initiatives

A FEMA-approved and jurisdiction adopted SHMP, LHMP, MJHMP and/or THMP ensures participant eligibility for FEMA mitigation grant programs and initiatives. Finalized HMPs enable jurisdictions to participate in various mitigation grant programs. Table 9-5 displays a representative sample of a few agency available program grants, while Appendix 13.24 provides a detailed list of potential state and federal agency funding resources.

Table 9-5 Federal Agency Mitigation Programs

Financial Resources	Accessible or Eligible to Use for Mitigation Activities
Hazard Mitigation Grant Program (HMGP)	FEMA funding available to eligible local and tribal jurisdictions after a presidentially declared disaster. It can be used to fund both pre- and post-disaster mitigation plans and projects.
Pre-Disaster Mitigation (PDM) grant program	FEMA funding available to eligible local and tribal jurisdictions on an annual basis. This grant is nationally competitive and can only be used to fund pre-disaster mitigation plans and projects.
Flood Mitigation Assistance (FMA) grant program	FEMA funding available to eligible local and tribal jurisdictions on an annual basis. This grant can be used to mitigate repetitively flooded structures and infrastructure to protect repetitive flood structures. Qualified jurisdictions may qualify for this funding source if they participate in, and compliant with NFIP requirements.
United State Fire Administration (USFA) Grants	USFA grant funding available to assist national, state, regional, local or tribal organizations to address fire prevention and safety. The primary goal is to reach high-risk target groups including children, seniors, and firefighters.
Fire Mitigation Fees	These grants can finance future fire protection facilities and provide fire capital expenditures for new development within special districts.

9.2.5. LOCAL AND TRIBAL HMP DEVELOPMENT SUPPORT AND SHMP INTEGRATION

DHS&EM subscribes to a whole community approach to emergency management, as it is expected that extensive collaboration with the public, all levels of government, the private sector, non-governmental organizations, and community organizations will be required. The State's intent is to foster a cooperative relationship with the community in order to build the most resilient Alaska possible. Open dialogue between local and tribal communities and the state is fostered and assistance is offered at all stages of HMP development.

DHS&EM's hazard mitigation planning process incorporates information from other plans, business practices, and governmental operations to supplement State data. The State strives to create a holistic approach for local communities to help them realize that integrating mitigation concepts and goals into other plans, such as comprehensive, transportation, and capital improvement plans, can guide their community decision-making processes. A component of updating Alaska's mitigation strategy is to consider and include local and tribal mitigation plan strategies. This comprehensive planning approach may ultimately improve their respective hazard risk reduction efforts from future disaster events.

The State reviews new or updated local and tribal HMPs for consistency with the SHMP. Whereas the State has large scale goals; communities can focus on smaller jurisdictional or

regional goals that directly link to their respective hazard threats. Local plans also offer communities the chance to consider state and federal mitigation actions to better guide and develop local hazard reduction strategies.

By reviewing, prioritizing, and incorporating the types or categories of community identified actions or projects, the State can better understand how to support investments in community-level mitigation efforts. The state reviews and includes these strategies to provide appropriate resources and support when available. The State strives to understand community vulnerabilities and priorities to ensure that their plans align with the state programs and strategies (e.g. Appendix 13-23 Distressed Community when prioritizing state actions or initiatives to address RL or SRL threatened communities.

DHS&EM's HMP development support includes but is not limited to financial assistance as well as the following:

- DHS&EM provides a one page document titled “I have a Mitigation Plan: What do I do now?” This assists jurisdictions with understanding the State and FEMA grant application processes by explaining how to get projects off the paper and move toward completion.
 - The guide provides direction and information relating to program and funding availability, the application process, deadlines and contact information, and the next steps toward fulfilling grant deliverable requirements. The State also provides local and tribal governments the “HMA Factsheet” and handout, “Mitigation Planning Benefits and Process,” “Maintaining your Hazard Mitigation Plan,” and “Notice of Funding Opportunity.”
- DHS&EM supports local requests for an annual Post Disaster Damage Assessment Course.
- DHS&EM Mitigation Planner and Resilience Section staff provide technical assistance to cities and tribes in order to facilitate program participation and enable success.

Available Hazard Mitigation Management Policies, Programs, Capabilities, and Funding Sources

While the State of Alaska has Public Assistance (PA) and Individual Assistance (IA) programs under State-declared disasters, Alaska does not have a State Disaster Mitigation Program. However, there have been a few occasions in which the governor and legislature have elected to identify and fund mitigation work using State Disaster Relief Funds (DRF). These actions occur under discretionary authority; however, no permanent State mitigation funded program fund has been established.

There are several mitigation programs in which the State of Alaska provides the entire non-federal match for local communities resulting in 100 percent of the funds being granted for the community. This is important to remember, as 218 communities are considered distressed in accordance with the surrogate standard methodology found in the 2017 Denali Commission Report. Another 25 are considered in distress using the expanded standard. The complete list is found in the SHMP Appendix 13.24, “2017 Alaska Distressed Community Report – Denali Commission.” Other available funding sources include: Community Development Block Grant (CDBG), Indian CDBG, Alaska Regional Development Organizations, Rural Development Assistance Mini-grants, and Unincorporated Community Grants.

The State staffs auditing and accounting representatives who provide community assistance to ensure community single audit act compliance.

The State provides community mitigation assistance through:

DHS&EM

- DHS&EM applies for and receives Pre-Disaster Mitigation (PDM) and Hazard Mitigation Grant Program (HMGP) planning grants to develop New and Update local, tribal, and State Hazard Mitigation Plans.
 - Hiring and coordinating with funded project managers
 - Grant and project application development.
- In collaboration with NOAA and FEMA; DHS&EM Prepared Section staff supports community volcano, earthquake, flood, tsunami, and siren program campaigns.
- Participates in the National Tsunami Hazard Mitigation Program (NTHMP), which provides annual funding for developing tsunami hazard mapping products, warning siren purchases and installation, and supports and encourages communities to participate in NOAA's TsunamiReady community recognition, outreach, and planning initiatives.
- The Spring Preparedness Conference happens annually. Emergency managers and local officials learn updated methods to better prepare their communities for future disaster event response, recovery, and mitigation actions.
- The Alaska Local Emergency Planning Committee (LEPC) Association and State Emergency Response Commission (SERC) meet twice a year. Once in the spring and once in the fall. DHS&EM, DEC, as well as SERC subcommittees present their reports (e.g., planning, communications, and hazardous materials) and discuss identified initiatives and strategies to reduce community impacts.
- Rural Resiliency Workshops are conducted biannually. These workshops are held in regional hubs throughout the state. They are locally hosted by tribal non-profit, LEPC, or other local organizations. The local government participants determine workshop focused areas, issues, and needs.
- DHS&EM staffs cultivate new projects with partner agencies and academia to support statewide earthquake, flood, tsunami, and volcano preparedness programs.
- DHS&EM staffs attend various workshops, meetings, and conferences as appropriate, or as invited, to share Alaska mitigation initiatives (e.g. NFIP, earthquake preparedness, tsunami warnings, etc.).

DCCED/DCRA

- DCCED/DCRA manages Alaska's Risk MAP program by providing communities with flood and other hazard information, risk assessment tools, and outreach support. These activities help communities understand their local risk, teach them how to make risk-based decisions, and ultimately lead to local action development to increase the community's natural hazard event resilience.
- DCRA's Floodplain Management program focuses on reducing RL and SRL flood damages through resilient community decision-making, and by implementing preventive, and when required, corrective measures.
 - The National Flood Insurance Program (NFIP) is one portion of the floodplain

management toolbox along with floodplain mapping, land use, and coastal protection planning initiatives. The NFIP provides minimum development standards for preventive and protective measures through improved land use and building practices, and encourages communities to evaluate and determine usage of higher standards.

Jurisdictional NFIP participation is based on an agreement between a local government and the federal government. If the community adopts and enforces a floodplain management ordinance that meets program standards, the federal government will make flood insurance available within the community. Participants assure they will give priority to RL and SRL property mitigation initiatives.

- DCCED funds and manages the state's RUBA – Rural Utility Business Advisor Program (<https://www.commerce.alaska.gov/web/dcra/RuralUtilityBusinessAdvisorProgramRUBA/BusinessPlanningforRuralAlaskaUtilities.aspx>).
 - The RUBA program began in 1994 and continues to provide technical, managerial, and financial training and assistance as mandated. The RUBA program increases the managerial and financial capacity of rural water and wastewater utility providers. The federal government amended the Safe Water Drinking Act in 1996 to require states to ensure that new systems are viable and that there is sufficient local technical, managerial, and financial capacity to operate the water or wastewater system.

DMA 2000 Requirements	
STANDARD. State Mitigation Capabilities	
S12.	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)]
Source: FEMA, March 2015	

9.2.6. STATE'S POLICIES, PROGRAMS, AND CAPABILITIES EVALUATION

9.2.6.1. BUILDING CODE EVALUATION

The Alaska Constitution and applicable statutes delegates Alaska building code requirements by borough and city class. The regulations states:

Home rule borough:

- Home rule, 1st and 2nd class boroughs **shall** have building codes and non-unified **may** have building codes.
 - Borough level has 12 that shall and 7 that may.
 - The borough requirement for building codes is 63% shall have codes and 37% may.

Home rule city:

- Home rule and 1st Class cities **shall** have building codes and non-unified **may** have building codes.
 - That would be 29 **shall** and 114 **may**.
 - The cities show a vastly different dynamic with 20% having to incorporate building codes and 80% may.

Most cities that are not required to have building codes do not. Those with building codes face enforcement difficulties due to lack of funding, staff, and geographical area that needs to be covered.

For example, the city of Palmer, Alaska (Home rule City) only began building code enforcement on 11 April 2017.

9.2.6.2. STATE AGENCY CAPABILITIES

Participating agencies have robust agency focused hazard mitigation programmatic capacity to provide community outreach, project development, and construction. The SHMAC's 52 agency membership (Appendix 13.7) participate in mitigation plan development, project review, and grant program application selection, review, and funding prioritization. Many SHMAC agencies seek to mitigate and upgrade their infrastructure using their agency's funding programs and resources as well as applying for HMGP and PDM funding.

Available federal programs provide limited funding opportunities. Federal programmatic decisions are based on community size. Alaskan communities have small populations compared to most lower contiguous lower 48 states. For example, the December 2003 Government Accounting Office's "Alaska Native Village – Most are Affected by Flooding and Erosion, but Few Qualify for Federal Assistance" report describes Alaska's community flood threats:

Flooding and erosion affects 184 out of 213, or 86 percent, of Alaska Native villages to some extent. While many of the problems are long-standing, various studies indicate that coastal villages are becoming more susceptible to flooding and erosion due in part to rising temperatures.

The Corps of Engineers and the Natural Resources Conservation Service administer key programs for constructing flooding and erosion control projects. However, small and remote Alaska Native villages often fail to qualify for assistance under these programs—largely because of agency requirements that the expected costs of the project not exceed its benefits. Even villages that do meet the cost/benefit criteria may still not receive assistance if they cannot meet the cost-share requirement for the project. Source: GAO 2003

Many federal agencies such as FEMA, USACE, NRCS and others view cost for protecting small community populations and infrastructure as too high. They prefer to seek larger jurisdictions where they can realize greater benefits. This is one of the main reasons that Alaska has very few NFIP participating jurisdictions – FEMA does not fund flood hazard studies and flood hazard map development due to excessive costs associated with remote locations.

9.2.6.3. REMOTE COMMUNITY CHALLENGES

As stated in Section 2, Alaska encompasses 656,425 square miles of land. A vast majority of Alaska's communities are considered remote. Few communities have road interconnectivity with other communities because there are only 13,546 paved and 1,601 unpaved road miles.

Most communities are only accessible by air or water. Travel into these areas is often dictated by weather and other sometimes seasonal terrain limitations. Continuing resilience and mitigation progress is further hampered by low populations and transient local and tribal government leadership, staff, community workers, as well as residents.

Remote communities have very diverse cultural and dietary needs such as seasonal subsistence harvesting that includes fishing, hunting, berry picking, and vegetable gathering and

preservation. Community artisans use antler, bone, and vegetation to create handicrafts that are sold to supplement their meager income.

DHS&EM's Resilience Section developed an "Alaska Community Resilience Analysis (ACRA) tool" to facilitate reviewing pertinent community data (Figures 9-1 and 9-2). These data identifies and considers their respective challenges such as the distance from medical care, safe village water availability, utility infrastructure capacity, and fuel expenses to name a few. The tool then ranks and scores the data categories resulting in a numerical score. The higher the score the higher the risk.

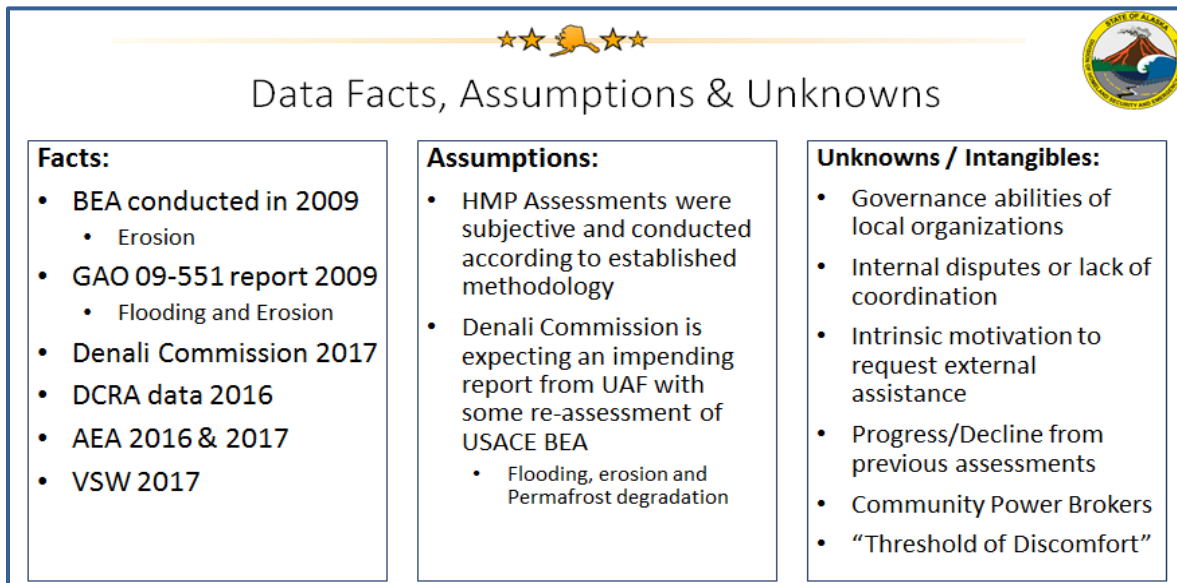
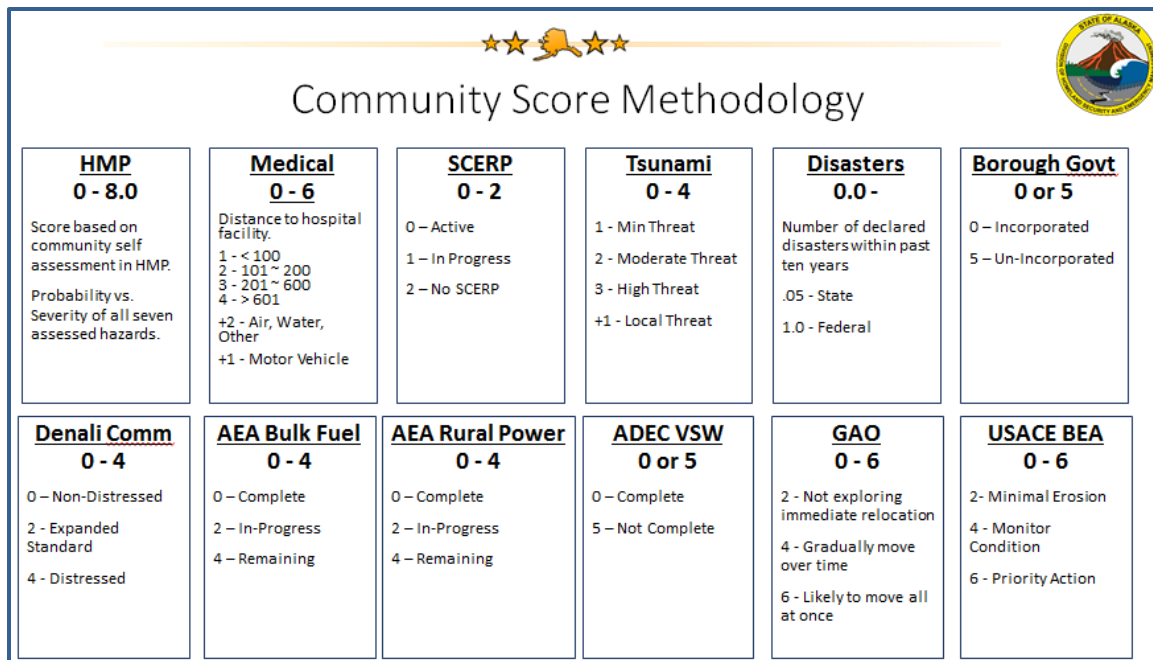


Figure 9-1 Alaska Community Resilience Analysis Community Scoring – Beta Version

The community score methodology is a beta version that will undergo stringent review and validation, but is a great representation of how the Resiliency Section strives to accurately assess community.



HMP 0 - 8.0	Medical 0 - 6	SCERP 0 - 2	Tsunami 0 - 4	Disasters 0.0 -	Borough Govt 0 or 5
Score based on community self assessment in HMP. Probability vs. Severity of all seven assessed hazards.	Distance to hospital facility. 1 - < 100 2 - 101 ~ 200 3 - 201 ~ 600 4 - > 601 +2 - Air, Water, Other +1 - Motor Vehicle	0 - Active 1 - In Progress 2 - No SCERP	1 - Min Threat 2 - Moderate Threat 3 - High Threat +1 - Local Threat	Number of declared disasters within past ten years .05 - State 1.0 - Federal	0 - Incorporated 5 - Un-Incorporated
Denali Comm 0 - 4	AEA Bulk Fuel 0 - 4	AEA Rural Power 0 - 4	ADEC VSW 0 or 5	GAO 0 - 6	USACE BEA 0 - 6
0 - Non-Distressed 2 - Expanded Standard 4 - Distressed	0 - Complete 2 - In-Progress 4 - Remaining	0 - Complete 2 - In-Progress 4 - Remaining	0 - Complete 5 - Not Complete	2 - Not exploring immediate relocation 4 - Gradually move over time 6 - Likely to move all at once	2 - Minimal Erosion 4 - Monitor Condition 6 - Priority Action

Figure 9-2 Alaska Community Resilience Analysis Community Scoring – Beta Version
Source: DHS&EM Resiliency Section 2018

9.3. DEVELOPING SHMP MITIGATION GOALS

DMA 2000 stipulated and implementing state governance regulations for developing hazard mitigation goals include:

DMA 2000 Requirements	
STANDARD. Mitigation Goals	
S8.	Does the mitigation strategy include goals to reduce / avoid long-term vulnerabilities from the identified hazards? [44 CFR §201.4(c)(3)(i)]
Source: FEMA, March 2015.	

Alaska's Mitigation Vision Statement

It is Alaska's vision to protect its citizens, promote resiliency, and reduce the long-term negative impacts from natural hazards on human, economic, and infrastructure throughout the state.

DHS&EM's Mission Statement

Protect/save life, property, and infrastructure. Minimize public and private property damages from natural hazard events. Increase citizen resiliency through training, education, and outreach programs to promote hazard impact awareness. Enhance and maintain state capability to implement a comprehensive statewide hazard loss reduction strategy. Integrate jurisdictional HMPs and concepts within all community plans, future policies, regulations, and laws.

9.3.1. REALIGNING SHMP GOALS

Mitigation goals are defined as general guidelines that describe what a community wants to achieve in terms of hazard and loss prevention. Goal statements are typically long-range, policy-oriented statements representing state-, community-, or tribal village-wide visions. The planning

team updated the mitigation goals to better focus statewide mitigation policies, procedures, projects, and actions intended to reduce or avoid future potential impacts to existing and future facilities.

The planning team reviewed and redefined their legacy 2013 SHMP's mitigation goals to better align with DHS&EM's Vision and Mission Statements. The SHMP's exposure analysis results coupled with participating state agencies' desires to simplify mitigation goals, resulted in the following four new mitigation goals that address combined hazard impacts. They are classified as Multi-Hazard (MH) categories that can address all multiple individual as well as complex natural hazard impact actions. For example, winter storms could cause avalanches or wet landslides while also causing economic losses when airlines or barge operations stop, preventing medical or response personnel transport and/or essential goods deliveries.

Table 9-6 lists the State's newly refined strategic mitigation goals, which form the foundation for the SHMP's Mitigation Strategy focused initiatives and processes.

Table 9-6 Mitigation Goals

No.	Goal Description
Multi-Hazards (MH)	
MH 1	Provide outreach activities to educate and promote recognizing and mitigating natural hazards that affect Alaska.
MH 2	Integrate community and state agency plans, mitigation goals, and initiatives throughout Alaska agency planning mechanisms and projects.
MH 3	Develop construction activities that reduce potential natural hazard damages and losses to support statewide initiatives, such as NFIP participation and RL/SRL property mitigation, etc.
MH 4	Increase funding opportunities for hazard mitigation actions and initiatives such as agency and community planning and project implementation.
Natural-Hazards	
CR 5	Reduce potential cryosphere (CR) vulnerability, damage, and loss.
EQ 6	Reduce potential earthquake (EQ) vulnerability, damage and loss.
FL 7	Reduce potential riverine and coastal flood (FL) , erosion vulnerability, damage, and loss.
GF 8	Reduce potential ground failure (GF) vulnerability, damage, and loss.
TS 9	Reduce potential tsunami (TS) vulnerability, damage, and loss.
VO 10	Reduce potential volcanic ashfall vulnerability, damage, and loss.
WX 11	Reduce potential severe weather vulnerability, damage, and loss.
WF 12	Reduce potential wildland/tundra fire vulnerability, damage, and loss.

9.4. IDENTIFYING MITIGATION ACTIONS

Mitigation actions are activities, initiatives, measures, or projects that help achieve the goals of a mitigation plan. Mitigation actions are usually grouped into three broad categories: property protection, public education and awareness, and construction projects.

The FEMA Hazard Mitigation Assistance Guidance and Addendum (HMA) states the importance of considering, evaluating, and implementing the most effective mitigation actions, projects, activities, and potential alternatives:

Reviewing and incorporating information from the State, tribal, or local mitigation plan can help an Applicant or subapplicant facilitate the development of mitigation project alternatives. Linking the existing mitigation plan to project scoping can support the Applicant and subapplicant in selecting the most appropriate mitigation activity that best addresses the identified hazard(s), while taking into account community priorities, climate change, and resiliency. In particular, the mitigation strategy section of the plan identifies a range of specific mitigation activities that can reduce vulnerability and includes information on the process that was used to identify, prioritize, and implement the range of mitigation actions considered...

It is important to reference the mitigation plan as potential project alternatives may have been considered during the planning process. If the project alternatives were not considered during the mitigation planning process, they should be considered in the next mitigation plan update. Source: FEMA 2015b

The planning team assessed the legacy 2013 SHMP's existing mitigation actions status and provided an explanation as to any changes that may have occurred (Table 9-7). The planning team defined legacy MHMP mitigation project's status as: "Completed", "Deleted", "Deferred," "Ongoing", and "Re-Defined" to better meet participant's needs.

The planning team determined that due to the volume of identified projects only the "High Priority" projects would be listed within the 2018 SHMP mitigation strategy's mitigation action plan (MAP) Table 9-10. All Medium and Low priority projects are listed in Appendix 13.26.

Note: crossed out text indicate combined and/or edited projects. The most current project data was placed within the 2018 MAP (Table 9-10).

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status

(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <u>Considered,</u> <u>Selected</u> <u>Brought Forward</u> <u>Complete,</u> <u>Deferred,</u> <u>Deleted,</u> or <u>Ongoing</u>	Explain Status	Description
MH 1	Provide outreach activities to educate and promote recognizing and mitigating natural hazards that affect Alaska	Lead: Fire Marshall's Office, Construction Industry Support: DCCED, Anchorage Geotechnical Commission, Insurance Industry, AHFC, mortgage	Annual-Ongoing	Moved from EQ	Host workshops for builders to teach or demonstrate new seismic construction techniques.

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		enders			
		Lead: State Legislature, Local communities Support: DHS&EM, Governor's Office, DCCED, ASHSC	Former timeline: 10 years	Reworded for clarity Moved from EQ	Support the legislature initiatives that establish new programs to provide earthquake hazard risk information to the public.
		Lead: DEED, DHS&EM Support: ARC, AEIC, DEED, AST, local communities	Annual - Ongoing During each school year	Moved from EQ Converted to action reflecting all hazard education activity	Continue all-hazard focused safety education and preparedness in Alaska's schools.
		Lead: DCCED Support: DHS&EM, DNR, DOT/PF	Ongoing	Moved from, FL Edited to reflect multi-hazard programs	Educate Alaska communities about the benefits of the NFIP, Storm Ready, and Firewise programs.
		Lead: DEED, DHS&EM Support: ARC, AEIC, DEED, AST, local communities	Annual - Ongoing During each school year	Moved from EQ Edited to reflect multi-hazard focused education activity	Encourage non-structural mitigation and preparedness activities.
		Lead: AEIC, UAA Support: USGS, ASHSC, DHS&EM	Updated action	No available funding Moved from EQ Combined objective and action into one concise action to reflect all-hazard focus	Expand the number and locations of modern strong motion and broadband seismic recording instruments in "low-noise" installations throughout Alaska to record and evaluate the seismic response of built infrastructure for opportunities to improve design and construction in all hazard locations.
		Lead: DCCED NFIP Coordinator Support: DHS&EM,	Ongoing	Moved from FL to reflect an all-hazard effort	Provide technical support for multi-hazard focused mitigation project grant applications that reduce future earthquake, flood, ground failure, tsunami, weather, wildland fire, etc.

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		FEMA		DHS&EM provides technical assistance on an as needed basis	losses.
		Lead: AVO Support: DGGs, DNR, NWS, DHS&EM, FAA, Aviation industry, Military aviation	Ongoing	Moved from VO This is an outreach activity	Disseminate Alaska and Russian volcano hazard information to the civilian and military aviation communities, trade shows, and other public events.
		Lead: USGS, NOAA Support: AVO, DNR/DGGs, UAF/GI, USCG	Ongoing	Moved from VO This is an outreach activity	Expand volcano hazard information dissemination to all Alaskan maritime and coastal communities.
		Lead: State DHS&EM, DCCED/DCR A, DNR/DOF Support: DPS, DLAW, ICC	Ongoing	Moved from WF	Provide planning development, administrative processes, technical writing, and grant application development training to improve community leadership capabilities.
MH 2	Cross-reference mitigation goals and actions throughout Alaska agency planning mechanisms and projects	Lead: DHS&EM Support: SHMAC participating agencies	Selected	New	Continue DHS&EM's Mitigation Section's forward progress to implement, monitor, review, and evaluate community and tribal mitigation plan identified actions.
		All state agencies will individually share this responsibility	Selected	New	State agencies will strive to coordinate, incorporate, and integrate mitigation planning provisions into all community planning processes such as comprehensive, capital improvement, and land use plans, etc. to demonstrate multi-benefit considerations and facilitate using multiple funding source consideration.
		Lead: Fire Marshal's Office Support:	Updated action	Moved from EQ	Encourage all state and local jurisdictions to adopt the current IBC, and enforce commercial and residential construction for all high hazard risk locations.

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		ASHSC, State Legislature, Anchorage Geotechnical Commission			
		Lead: Fire Marshal's Office Support: ASHSC, State Legislature, Anchorage Geotechnical Commission	Updated action	Moved from EQ	Provide sufficient resources and incentives to encourage compliance with the most current IBC all high hazard risk locations.
		Lead: Fire Marshal's Office Support: ASHSC, State Legislature, Anchorage Geotechnical Commission	Updated action	Moved from EQ	Encourage all communities to adopt or update to the current IBC for residential construction.
		Lead: DCCED, DHS&EM, Local governments, DOT/PF Support: State Legislature	Updated action	Moved from FL	Develop land-use planning tools such as sample regulations, land use policies, and zoning procedures that reduce or prevent development in high hazard areas such as flood, ground failure, tsunami, wildfire, etc.
MH 3	Develop construction activities that reduce potential natural and manmade hazard damages and losses	Lead: DCCED Support: DHS&EM, DGGS, and Local communities	3-5 years	Moved from GF Deferred: lack of funding	Develop an historical landslides, landslide prone, permafrost, and other soil instability locations inventory linked to specific ground failure hazard maps.
		Lead: DHS&EM Support: DCCED, DOT/PF, DEED, DEC, SHMAC	Ongoing	Moved from FL Combined and edited two projects with similar action intent	Promote development practices that reduce the flood risk (i.e. relocation, elevate at least 2 ft above BFE, or buy-out property). <i>* Purchased property deeds "must be" restricted for open space uses for perpetuity to keep people from rebuilding in known hazard areas.).</i>
		Lead: DCCED,	Ongoing	Moved from FL	Support community relocation site planning to remove threatened structures outside

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		USACE, DHS&EM Support: Denali Commission, FEMA, DOT/PF		Edited to reflect for all hazard action focus	threatened structures outside high hazard threat areas e.g., the cryosphere, floodplain, erosion, ground failure, etc.
MH 4.	Increase funding opportunities for hazard mitigation actions and initiatives such as agency and community planning and project implementatio n.	All Agencies	Selected	New	Identify and pursue funding opportunities to implement mitigation actions (erosion control, structure elevation or relocation, etc.)
		Lead: Fire Marshal's Office Support: ASHSC, State Legislature, Anchorage Geotechnical Commission		Moved from EQ	Provide sufficient resources and incentives to ensure IBC development and compliance.
		Lead: DHS&EM. DEED Support: FEMA, State Legislature, US Congress	Annual- Ongoing	Moved from EQ Reworded for all hazard & for clarity	Fund seismic hazard mitigation retrofits projects for all public facilities such as schools, bridges, airports, etc.
		Lead: USACE Support: DCCED, DHS&EM, Denali Commission	Ongoing	Moved from FL Edited to refine action intent	Prepare and fund a statewide community erosion assessment and prioritize at risk communities and infrastructure.
		Lead: DCCED, USACE, DHS&EM Support: Denali Commission, FEMA, DOT/PF	Ongoing	Moved from FL Edited to refine action intent	Support community relocation site planning to remove threatened structures outside high hazard threat areas e.g., the cryosphere, floodplain, erosion, ground failure, etc.
		Lead: DCCED Support: DHS&EM, SHMAC, DOT/PF,	Ongoing	Moved from GF and edited to reflect an all-hazard action intent	Support and fund relocating structures and other infrastructure from high hazard risk areas. (e.g. cryospheric, earthquake, flood, ground failure, wildfire, etc.)

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		DEED, DEC			
		Lead: DCCED Support: DHS&EM, SHMAC, DOT/PF, DEED, DEC	Ongoing	Moved from FL Edited to reflect an all-hazard action intent	Create a prioritized list of potential all hazard (e.g., cryospheric, earthquake, flood, ground failure, wildfire, etc.) damaged or impacted structures and prepare grant applications to relocate them away from high hazard risk areas for potential FEMA funding.
CR 5	Reduce potential cryosphere (CR) vulnerability, damage, and loss.	Legacy 2013 SHMP Section 5.3.3 Snow Avalanche Goals, Objectives, and Actions			
		High Priority			
		Lead: DHS&EM, Local communities, Avalanche centers Support: DHS&EM, DOT/PF, DNR	Deferred Former timelines: 2-5 years	Moved from GF Combined objective and action into one concise actions	Objective 1.1: Encourage communities to prohibit development in avalanche areas and relocate existing development.
					GF Action 1.1.1: Support and fund community avalanche risk assessments and incorporate them into community hazard mitigation plans.
					GF Action 1.1.4: Support and fund development of local avalanche zone maps for use in construction and land use planning and zoning.
					Encourage agencies to develop localized landslide and avalanche zone maps and support community risk assessment efforts that provide justification for prohibiting development in high hazard areas.
EQ 6	Reduce earthquake (EQ) damage and loss possibilities	Legacy 2013 SHMP Earthquake Section 5.5.3 Goals, Objectives, and Actions			
		High Earthquake Priority			
		Lead: DNR/DGGS Support: AEC, DNR, DMVA, FEMA, NOAA, USGS	Completed	Gov. authorized commission through 2020	EQ Action 1.1.1: Continue the Commission’s statutory existence beyond the current June 2014 “sunset” authorization.
		Lead: Fire Marshal’s Office, State Legislature Support: ASHSC, DOT/PF, Anchorage Geotechnical Commission, State Fire Marshal,	Former timeline: 10 years	Combined similar actions into one concise action Moved to MH 2	EQ Action 2.1.1: Encourage communities to adopt the most current International Building Code (IBC)
					EQ Action 2.1.2: Enforce requirement that all State facilities be designed and constructed in accordance with the current IBC. EQ Action 2.1.3: Support legislation to require communities use and enforce IBC seismic codes in design and construction as a

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		AHFC, mortgage lenders, DHS&EM			condition for receiving State and Federal funds.
		Lead: Fire Marshal's Office Support: ASHSC, State Legislature, Anchorage Geotechnical Commission	Former timeline: 10 years	Moved to MH 2 Divided legacy Project into separate actions see action references	EQ Action 2.1.4: Encourage all communities to adopt or update to the current IBC for residential construction and provide sufficient resources and incentives to ensure compliance.
		Lead: DEED, DHS&EM Support: ARC, AEIC, DEED, AST, local communities	Annual - Ongoing During each school year	Moved to MH 1 Convert to Action – Education activity	Objective 4.1: Continue earthquake safety education and preparedness in Alaska's schools.
		Lead: DEED, DHS&EM Support: ARC, AEIC, DEED, AST, local communities	Annual - Ongoing During each school year	from EQ Edited to reflect multi-hazard focused education activity	EQ Action 4.1.1: Encourage non-structural mitigation and preparedness activities.
		Lead: DOT/PF, ASHSC, DEED Support: DHS&EM, DEED, Community Insurers, State Fire Marshal	Delete	This is already a federal grant funding requirement	EQ Action 4.2.3: Encourage seismic safety reviews of new schools designs and construction in Alaska.
FL 7	Reduce flood, coastal storm surge, and erosion related damage and loss possibilities	High Flood Priority			
		Lead: DCCED Support: DHS&EM, SHMAC, DOT/PF, DEED, DEC	Ongoing	Edited to reflect an all-hazard action intent Moved to MH 4	Edited: FL Action 1.1.1: Create a prioritized list of potential all hazard (e.g., cryospheric, earthquake, flood, ground failure, wildfire, etc.) damaged or impacted structures and prepare grant applications for FEMA funded programs.

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		Lead: DHS&EM Support: DCCED, DOT/PF, DEED, DEC, SHMAC	Ongoing	Combined and edited two projects with similar action intent Moved to MH 3	FL Action 1.4.1: Encourage the State and communities to purchase flood-prone property and convert to open space for perpetuity.
					FL Action 1.2.1: Promote development practices that reduce the flood risk
		Lead: DHS&EM Support: DCCED, DOT/PF, DEED, DEC, SHMAC	Ongoing	Moved to MH 4 Edited to reflect an multi-hazard focus intent	Edited: Provide technical support for multi-hazard focused mitigation project grant applications that reduce future earthquake, flood, ground failure, tsunami, weather, wildland fire, etc. losses.
		Lead: DCCED, USACE, DHS&EM Support: Denali Commission, FEMA, DOT/PF	Ongoing	Edited to reflect for all hazard action focus Moved to MH 3	FL Action 1.3.2: Support the planning of community relocation sites outside the flood plain in the event of available funds.
		Lead: DCCED, Local governments, DOT/PF Support: State Legislature, DHS&EM	Ongoing	Combined and edited two projects with similar action intent Moved to MH 2	FL Action 1.4.2: Encourage land-use planning to reduce development in floodplains.
					FL Action 1.4.3: Develop community planning tools that include sample regulations, land use policies and zoning procedures reduce development in the floodplain.
		Lead: DCCED NFIP Coordinator Support: DHS&EM, FEMA	Ongoing	Moved to MH 1 DHS&EM provides technical assistance on an as needed basis	FL Action 1.5.1: Provide technical support for mitigation project grant applications that reduce future flood losses.
		Lead: DCCED NFIP Coordinator Support: DHS&EM, FEMA NFIP Program Manager	Ongoing		FL Action 1.5.2: Encourage State and Federally funded flood elevation projects result in elevations a minimum of two feet above the identified base flood elevation (BFE).
					Edited FL Action 1.5.2: Require that all State and Federally funded flood elevation projects be elevated a minimum of two feet

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions	
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description	
					above the identified or projected base flood elevation (BFE).	
		Lead: DCCED Support: DHS&EM, USACE, UAF/GI, FEMA, DNR/DGGS, DEED, USGS	Ongoing	Convert Objective and edited as a statewide action. No available funding for statewide remote communities	FL Objective 6.1 - Carry forward as a stand-alone project: Increase the coverage and accuracy of Alaska’s flood-prone communities by developing flood hazard area mapping.	
		Legacy SHMP Section 5.9.3 Erosion Goals, Objectives and Actions				
		High Erosion Priority (will combine within Flood Hazard)				
		Lead: DNR/DGGS, DCCED, and USACE Support: NRCS, DHS&EM	Deferred Former Timeline: 5-years	No available funding	ER Action 1.1.1: Support and fund local community erosion studies and incorporate them into their hazard mitigation planning.	
		Lead: DHS&EM, DOT/PF, DCCED Support: Denali Commission, local communities, and FEMA	Deferred Former Timeline: 5-years	Moved to MH 4 Edited to reflect an all-hazard action intent No available funding	ER Action 2.1.1: Support and fund the relocation of structures and facilities from areas that have been identified as high risk for erosion.	
		Lead: USACE, NRCS, DEC Support: DNR, Denali Commission, Local communities, FEMA, DOT/PF, and EPA	Deferred Former Timeline: 5-years	No available funding Combined actions into one concise action	ER Action 2.2.1: Encourage the retention and planting of natural vegetation in coastal areas.	
					ER Action 2.3.1: Encourage the retention and planting of natural vegetation in riverine areas. Edited: Encourage developing erosion damaged embankment restoration projects that use natural vegetation to stabilize and fortify high risk coastal and riverine erosion damaged locations.	
		Legacy 2013 SHMP Section 5.8.3 Ground Failure Goals, Objectives, and Actions				
		High Priority				
GF 8	Reduce ground failure (GF) damage and loss	Lead: USGS and DGGS		Combined objective and	Objective 1.1: Identify and map areas prone to ground failure.	

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
	possibilities	Support: DOT/PF, AKRR, and DHS&EM		action into one concise action	Action 1.1.1: Develop maps of landslides and landslide-prone areas in urban areas. Objective 1.2: Combine maps with the historical records of landslides. Action 1.2.1: Develop an inventory of landslide events. Edited GF Obj. 1.1, Action 1.1.1 with Obj 1.2 & Action 1.2.1: Develop an inventory of historical landslides and landslide prone areas for use with producing location specific landslide hazard maps.
TS 9	Reduce tsunami (TS) damage and loss possibilities	Legacy 2013 SHMP Section 5.6.3 Tsunami Goals, Objectives, and Actions			
		High Priority			
		Lead: DHS&EM, NOAA Support: AEIC, DOT/PF, local jurisdictions	Ongoing	Combined redundant objectives and actions into one concise actions (State DHS&EM and NOAA conducted tsunami workshops for Alaska communities for years 2013 – 2016. Workshops are planned for years 2016 – 2019 to address warning, evacuation, recovery, and mitigation.)	Objective 1.1: Encourage all tsunami-threatened coastal communities to participate in the DHS&EM Tsunami Program .
					Action 1.1.1: Conduct community outreach and discuss available mitigation partnerships, benefits, and grant opportunities.
					Objective 1.2: Tsunami Ready - Encourage all tsunami high-risk communities to participate in the NWS/DHS&EM TsunamiReady Program .
		Lead: DHS&EM Support: NOAA, DOT/PF, local jurisdictions	Ongoing	Edited for clarity (Tsunami evacuation signs have been installed in 25 Alaskan	Action 1.2.1: Assist all tsunami communities towards TsunamiReady certification. Edited TS Obj 1.1, Action 1.1.1 with Obj 1.2 & Action 1.2.1: Conduct community outreach to encourage all tsunami threatened communities to participate in NOAA Tsunami Ready Program. Provide platform for discussing available mitigation partnerships, benefits, and grant opportunities by preparing: <ul style="list-style-type: none"> • Tsunami Hazard Plan (or annex to existing Emergency Operations or Comprehensive Plans), • Identify Tsunami Evacuation Routes, and • Agree to place tsunami awareness signs in their community for those that participate in the program. TS Action 1.1.2: Provide tsunami hazard and evacuation signs for at risk tsunami prone communities. The sign program requires communities to complete a Tsunami Hazard Plan (or annex to existing Emergency Operations or Comprehensive Plans), identify Tsunami Evacuation Routes, and agree to place tsunami awareness signs in

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
(Blue text items are the legacy 2018 SHMPMAP actions and their respective status determinations)

Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
				communities as of 2016)	their community. Edited Action TS 1.1.2: Provide tsunami hazard and evacuation signs for TsunamiReady Certified communities.
		Lead: DHS&EM Support: AEC, NOAA, Local jurisdictions	Ongoing	Tsunami warning sirens have been installed in 38 Alaskan communities as of 2016.	TS Action 1.1.3: Install tsunami warning sirens in at-risk tsunami communities.
		Lead: DHS&EM Support: AEC, NOAA, Local jurisdictions	Ongoing	Live tsunami warning system code tests in Alaska are conducted annually; coinciding with the 1964 Good Friday earthquake and tsunami anniversary.	TS Action 1.1.5: Conduct statewide tests of the tsunami warning system annually.
		Lead: NTWC, DHS&EM, NOAA Support: Local jurisdictions, ASHSC	Ongoing	Annual process Edited to update current processes	TS Action 1.2.2: During the third year of their TsunamiReady certification, contact TsunamiReady communities and support them through the renewal process. Edited TS Action 1.2.2: Contact TsunamiReady Certified communities during the third year of their TsunamiReady certification to support them throughout their renewal process.
		Lead: UAF/GI, AEC, DNR/DGGS, USGS Support: NTWC, NOAA, DHS&EM, ASHSC, FEMA, NPS	Ongoing Former timeline: 10 years	Should consider combining these as a multi-phased project because each aspect is needed before modeling or mapping can occur	4. Objective 2.1: Research and model the tsunami risk for vulnerable coastal communities.
		Lead: NOAA Support: DHS&EM, AEC, DNR/DGGS,	Ongoing Former timeline: 10 years		5. Action 2.1.1: Develop tsunami inundation maps for tsunami-threatened communities statewide.
					3. Action 2.1.2: Obtain bathymetric data for accurate tsunami inundation mapping.

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
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Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		NTWC, NOAA, ASHSC			
		Lead: NOAA Support: DHS&EM, AEC, DNR/DGGS, USGS, NTWC, NOAA, FEMA, ASHSC	Ongoing Former timeline: 10 years		2. Action 2.1.3: Obtain coastal ground elevation datasets for accurate tsunami inundation mapping.
		Lead: NOAA Support: DHS&EM, AEC, DNR/DGGS, USGS, NTWC, NOAA, FEMA, ASHSC	Ongoing Former timeline: 10 years		1. Action 2.1.4: Identify, locate, and characterize tsunami sources in Alaska.
		Lead: State DHS&EM, NOAA, local communities Support: AEC, DNR/DGGS, NTWC, NOAA, ASHSC	Ongoing Former timeline: 2 years	Moved to MH 2 Edited to reflect multi-hazard initiative	TS Action 2.1.5: Encourage communities to document tsunami risk areas in land-use plans, zoning and evacuation plans.
		Lead: DHS&EM, AEC Support: ASHSC, DNR/DGGS	Ongoing	Annual recurrence DHS&EM in 2013-2016 served on both the NTHMP coordination committee and mitigation sub-committee.	TS Objective 3.1: Continue State and Federal advocacy partnerships such as the National Tsunami Hazard Mitigation Program (NTHMP). TS Action 3.1.1: Continue the State of Alaska participation on the NTHMP through a DHS&EM and UAF/GI AEIC partnership while advocating for continued Congressional funding of the NTHMP.
		Lead: UAF/GI	Ongoing Former	Limited available	Edited TS Obj 3.1 & Action 3.1.1: Continue DHS&EM's participation on the NTHMP with UAF/GI, AEC, and DGGS partnership while advocating for continued Congressional NTHMP funding. TS Objective 3.2: Research and implement rapid tsunami forecasting methods.

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
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No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		AEC Support: University of California Berkley, NOAA	timeline: 5 years	funding	TS Action 3.2.1: Collaborate with researchers studying the implementation of near-real-time moment tensor inversion and extension of earthquake source inversion procedures for rapid tsunami forecasting. TS Action 3.2.2: Continue development of a “GPS shield technique” for tsunami early warning. TS Edited Obj 3.2, Action 3.2.1, & 3.2.2: Encourage NOAA to continue researching and developing rapid tsunami warning technologies such as near-real-time moment tensor inversion, extension of earthquake source inversion procedures, and “GPS shield technique” early tsunami warning efforts.
VO 10	Reduce volcanic (VO) activity disruption, damage, and loss possibilities	Legacy 2013 SHMP Section 5.4.3 Volcano Goals, Objectives, and Actions			
		High Priority			
			Ongoing	Convert this objective to an action	VO Objective 1.1: Conduct a comprehensive volcano hazard and risk assessment for the Cook Inlet and surrounding areas and incorporate the results into hazard mitigation planning.
		Lead: USGS Support: DNR/DGGS, UAF/GI	Ongoing	Move to MH 1 First generation hazard assessments for nearly half of the 52 historically active volcanoes in Alaska are complete or in progress. Funding Dependent	VO Action 1.1.1: Conduct and publish individual volcano hazard and risk assessments in Cook Inlet.
		Lead: DHS&EM, Local communities Support: DNR, DGGS, AVO, NOAA	Ongoing Former timeline: 1 years	AVO representatives historically participate on SHMP update planning teams	VO Action 1.1.2: Incorporate updated volcanic hazard assessments in State and local hazard mitigation plans as appropriate.
		Lead: DHS&EM, Local communities	Ongoing	Volcanic hazard assessments were included	VO Action 1.1.3: Include updated volcanic hazard assessments in State and local Emergency Response and Operations Plans as appropriate.

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
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Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		Support: DNR, DGGs, AVO, NOAA		in the 2010 State Emergency Operations Plan update	
		Lead: DNR, DGGs, AVO, NOAA Support: DSH&EM, ADEC, DHSS, Land management agencies	Ongoing Former timeline: 3 years	The USGS published a 2014 Interagency Ash Plan update	VO Action 1.3.2: Create and disseminate volcano hazard information products. Lead: AVO and its constituent agencies
		Lead: AVO, NWS, FAA Support: DHS&EM, Aviation industry, Military aviation	Ongoing Former timeline: 2-5 years	Move to MH 1 Combine and edit actions to better reflect needs Partially accomplished - funding dependent	VO Objective 1.4: Conduct specific outreach to the Alaskan aviation community regarding the hazards posed by Alaskan and Russian volcanoes.
					VO Action 1.4.1: Disseminate information at military and civilian air shows.
					VO Action 1.4.2: Attend the Alaska State Aviation Trade Show and other public events in Alaska to provide information and training on volcano hazards.
					Edited VO Obj 1.4, Actions 1.4.1, & 1.4.2: Disseminate Alaska and Russian volcano hazard information to the civilian and military aviation communities, trade shows, and other public events.
		Lead: USGS, NOAA Support: AVO, DNR/DGGs, UAF/GI, USCG	Ongoing Former timeline: 3 years	Move to MH 1 In 2015, NOAA published via a web page, “Maritime Impacts of Volcanic Eruptions: A guide for the Prudent Mariner”.	VO Objective 1.5: Expand awareness of volcanic hazards to the maritime industry and community.
					VO Action 1.5.1: Expand education, outreach and improved warning dissemination of volcanic hazard information for the public.
					Edited VO Obj 1.5 & Action 1.5.1: Expand volcano hazard information dissemination to maritime and coastal communities.
		Lead: AVO, DHS&EM Support: NWS/NOAA	Redundant effort Former timeline: 3 years	Delete	Objective 1.6: Disseminate specific information regarding volcanic hazards and mitigation to Alaskan communities at risk to volcanic eruptions.
					Action 1.6.1: Conduct outreach and education on volcanic hazards and risk mitigation for the remote communities of the

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
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Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
					Alaska Peninsula and the Aleutian Islands.
		Lead: AVO Support: USFWS, NPS, village corporations, local governments	Deferred	Funding and volcanic activity dependent	Objective 3.1: Expand real time seismic and other geophysical monitoring to high-priority volcanoes in Alaska.
				Merged with EQ Similar Seismic initiative	Action 3.1.1: Install, maintain, and repair monitoring equipment on, selected volcanoes
WX 11	Reduce weather related (WX) damage and loss possibilities	2013 Legacy SHMP Section 5.7.3 Weather Goals, Objectives, and Actions			
		High Priority			
		Lead: NWS, DHS&EM Support: DCCED, DEC, DOT/PF	Delete old Objectives and actions and replace with the edited version as Ongoing Former Timeline: 5-years	Combined two Objectives and associated actions to create one viable project. DHS&EM conducted Disaster Preparedness Conferences during 2015, 2016, 2017, and 2018 NOAA & DHS&EM communities each year to support Storm and Tsunami Ready programs between 2013 and 2015.	Objective 1.1: Conduct special statewide outreach/awareness activities, such as Lightning Safety Awareness Week, Winter Weather Awareness Week, and Flood Awareness Week.
					Action 1.1.1: Host a minimum of four outreach events each year.
					Objective 5.1: Complete joint, NOAA/NWS/State, community visits to encourage Storm Ready and Tsunami Ready qualification.
					Action 5.1.1: Complete a minimum of two community visits per year in support of Tsunami Ready and Storm Ready certification.
		Lead: NWS Support: DHS&EM	Ongoing Former Timeline: 5-years	Combined Objective and action into one action to refine projects focus and purpose	Objective 2.1: Expand public awareness of NOAA Weather Radio (NWR) for continuous weather broadcasts and warnings.
					Action 2.1.1: Add more weather stations and high sites to the NWR network.
					Combined WX Obj 2.1 & Action 2.1.1: Install more weather stations and “high sites” to the NWR network to facilitate expanding continuous broadcast and warning availability to remote locations.
		Lead: DHS&EM	Ongoing Former	Information was added to	Objective 2.2: Encourage local communities to employ redundant methods of receiving

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No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
		<i>Support:</i> NWS	<i>Timeline: 5- years</i>	<i>DHS&EM public outreach in 2013</i>	<i>weather warnings and disseminating those warnings throughout the community.</i>
					<i>Action 2.2.1: Encourage communities to register with NOAA for warnings via FAX, E- Mail, radio, telephone and to transmit to public in redundant methods.</i>
					Combined Obj 2.2 & Action 2.2.1: <i>Encourage local communities to employ and register with NOAA to receive warnings via FAX, E-Mail, radio, telephone and to transmit to public in redundant methods to fulfill StormReady criteria for redundant warning and emergency information receipt and communitywide disseminating.</i>
		<i>Lead: NWS Support: DHS&EM, local communities</i>	<i>Ongoing Former Timeline: 5- years</i>	<i>Combined and edited Objective and Action to create a viable project outcome. Spotters are recruited through the Riverwatch program, but not yet trained or networked in 2016</i>	<i>Objective 3.1: Train volunteers in the use of all-season storm spotter networks.</i>
					<i>Action 3.1.1: Host workshops in communities.</i>
					Combined Obj 3.1 & Action 3.1.1: <i>Conduct workshops to train community volunteers to perform all-season Storm Spotter Network activities such as Riverwatch and other extreme weather event reporting and coordination.</i>
		<i>Lead: NWS Support: DSH&EM and local communities</i>	<i>Ongoing Former Timeline: 10- years</i>	<i>Move to MH 1 As of 2012, NOAA has partnered with State DHS&EM and is seeking other partnerships.</i>	<i>Objective 3.2: Expand weather monitoring networks through partnerships with other agencies.</i>
					<i>Action 3.2.1: Conduct outreach activities with other agencies.</i>
					Combined Obj 3.2 & Action 3.2.1: <i>Conduct agency outreach activities to expand Weather Monitoring Networks to facilitate communicating warnings and severe event communication and warnings.</i>
		<i>Lead: NWS, Building industry, and local communities Support: DHS&EM</i>	<i>Ongoing Former Timeline: 5- years</i>	<i>Move to MH 1 Participants have presented this information in multiple formats and forums since</i>	<i>Objective 4.1: Encourage weather resistant building construction materials and practices.</i>
					<i>Action 4.1.1: Encourage education and training on the value and use of weather resistance building construction.</i>
					Combined Obj 4.1 & Action 4.1.1: <i>Encourage and conduct education or hands- on training to demonstrate the value of</i>

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
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Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
				2012.	<i>various hazard resistant construction practices and appropriate materials selection to improve hazard event damage resistance.</i>
WF 12	Reduce tundra/wildland fire (WF) damage and loss possibilities	2013 Legacy SHMP Section 5.2.3 Wildland Fire Goals, Objectives, and Actions			
		High Priority			
		Lead: DNR/DOF, local communities Support: DCCED, DHS&EM, FEMA, NFA, ICC	Ongoing Former Timeline: 2- years	Move to MH 1 FEMA and DHS&EM have added a Fire Mitigation Assistance Grant (FMAG) addressing the 2015 Sockeye and Card Street wildfires.	WF Objective 1.1: Promote the Firewise program and encourage Firewise risk mitigation practices. WF Action 1.1.1: Support community based wildland fire mitigation workshops. Combined WF Obj 1.1 & Action 1.1.1: Conduct Firewise and other hazard resistant construction and materials selection workshops to teach program requirements and best risk mitigation practices
		Lead: State DHS&EM, DCCED/DCR A, DNR/DOF Support: State Legislature, Governor	Ongoing Former Timeline: 2- years	Move to MH 1 The State provided matching funds for federal plan grants Until 2014	WF Objective 1.2: Support Community Wildfire Protection and Hazard Mitigation plan development. WF Action 1.2.1: Provide matching funds for federal planning grants. Combined WF Obj 1.2 & 1.2.1: Support Community planning initiatives such as Wildfire Protection, Hazard Mitigation, and other infrastructure protection plan development by providing a state grant as a matching grant to federal funding.
		Lead: State DHS&EM, DCCED/DCR A, DNR/DOF Support: DPS, DLA, ICC	Ongoing Former Timeline: 2- years	Edited for clarity and improve intent:	WF Action 1.2.2: Provide training for planning processes and writing techniques. Edited WF Action 1.2.2: Provide planning development, administrative processes, technical writing, and grant application development training to improve community leadership capabilities.
		Lead: State DHS&EM, DCCED/DCR A, DNR/DOF Support: State Legislature, Governor	Ongoing Former Timeline: 2- years	Moved to MH 4 Combined similar Objective and associated actions to create one viable action. State DHS&EM provided	WF Objective 1.3 Support Community Wildfire Protection and Hazard Mitigation Projects. WF Action 1.3.1: For impoverished communities, provide matching funds for federal hazard mitigation project grants. WF Action 1.3.2: Provide matching funds for USFS/AKDOF Volunteer Fire Assistance grants for impoverished communities. Combined WF Obj 1.3, Action 1.3.1, & 1.3.2: Support impoverished community federal mitigation grant required matching funds for eligible mitigation projects such as

Table 9-7 Alaska SHMP Update – Existing and New Mitigation Actions Status
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Goals		Status			Actions
No.	Description	Responsible Agency (ies)	New <i>Considered, Selected Brought Forward Complete, Deferred, Deleted, or Ongoing</i>	Explain Status	Description
				<i>matching funds for an erosion mitigation project in 2014. Thus, the precedent exists for future State matching funds addressing federal wildland fire project grants.</i>	<i>HMP, USFS/AKDOF Volunteer Fire Assistance, Wildfire Protection, and climate change adaptation planning, floodplain mapping and other eligible construction project related grants.</i>
		<i>Lead: DNR/DOF, Local communities, DHS&EM Support: FEMA, BLM/AFS, DNR/DOF, USFS</i>	<i>Complete Former Timeline: 2- years</i>	<i>Determine whether to delete or classify as Ongoing This action is conducted during mitigation grant training and upon request.</i>	<i>Objective 2.1: Support wildland fire hazard fuel reduction programs. Action 2.1.1: Provide technical assistance to communities applying for wildland fire fuel mitigation grants.</i>
		<i>Lead: DNR/DOF, Local communities, BLM/AFS, DNR/DOF, USFS Support: FEMA, DHS&EM</i>	<i>Ongoing Former Timeline: 5- years</i>	<i>The State DNR/DOF awarded a USFS sponsored Volunteer Fire Assistance Award to 30 Alaskan communities for wildland fire mitigation in 2015.</i>	<i>WF Action 2.1.2: Identify, organize, and monitor the various programs responsible for fuel management in the wildland/urban interface.</i>

The planning team then developed a list of their new disaster grant awarded projects (Table 9-8) since the legacy 2013 SHMP was implemented. These disaster-related hazard mitigation projects focused on funding projects that reduce impacts to RL/SRL, threatened, and disaster-impacted properties and infrastructure throughout the legacy 2013 SHMP's 5-year life cycle.

It is important to note that the Newtok Native Village and Galena's Loudon Tribe have received repetitive flood losses. However, neither the Loudon tribe nor Newtok Native Village

participates in the NFIP. Fort Yukon is an NFIP member. Their respective disaster funded projects addressed RL/SRL property impacts. Table 7-10 identify projects the state will continue to manage during the 2018 SHMP's lifecycle.

Table 9-8 Mitigation Goals and Disaster-Funded Actions

Goals		Status		Funding Sources	Actions
No.	Description	Unfunded Brought Forward, Open, Closed	New, Ongoing	State Level	Description
Multi-Hazards (MH)					
MH 1	<i>Provide outreach activities to educate and promote recognizing and mitigating natural hazards that affect Alaska</i>	N/A	New	EMPG, HMA	Identify and pursue funding opportunities to implement mitigation actions.
		N/A	New	EMPG, HMA	Continue DHS&EM's Mitigation Section's forward progress to implement, monitor, review, and evaluate community and tribal mitigation plan identified actions.
MH 2	<i>Integrate mitigation goals and initiatives throughout Alaska agency planning mechanisms and projects</i>	N/A	New	SHMAC Agency, HMA	Establish a formal role for the SHMAC to develop a sustainable process to implement, monitor, review, and evaluate responsible agencies' mitigation actions.
		N/A	New	SHMAC Agency Leads	State agencies will strive to coordinate, incorporate, and integrate mitigation planning provisions into all community planning processes such as comprehensive, capital improvement, and land use plans, etc. to demonstrate multi-benefit considerations and facilitate using multiple funding source consideration.
		Open Expires: 10/01/18		HMGP	2015: 4244.0001, City and Borough of Sitka, LHMP Update
		Open Expires: 06/30/19		HMGP	2015: 4244.0002, City of Skagway LHMP Update
		2016 Unfunded	N/A	HMGP	2016: 4257.0007, Denali Borough, Multi-Jurisdictional, Multi-Hazard Plan Update Project
MH 3	<i>Develop construction activities that reduce potential natural hazard damages and losses to support statewide initiative, such as NFIP participation</i>	Closed	Complete	HMGP	2012: 4094.0002, Loudon Tribal Council, (13) Galena Structures Elevation Projects (RL/SRL)
		Withdrawn/ Closed	N/A	--	2012: 4094.0003, City of Galena, City Hall and Clinic Structure Elevation Projects (RL/SRL)
		Open Expires: 12/20/20		HMGP	2012: 4094.0004, Newtok Village Council, 7 Home Acquisition & Demolition Projects (RL/SRL)
		2012 Unfunded	N/A	HMGP	2012: 4094.0005, Fort Yukon Village 9 Structure Elevation Projects (RL/SRL)
		Withdrawn	N/A	HMGP/ PDM	2014: 4162.0002, Newtok Village Council, 5 Homes Acquisition Project Alternate Project - If Funding Is Available (RL/SRL)
		Closed	Complete	HMGP	2014: 4162.0003, Newtok Village Council, 13 Homes Relocation Project (RL/SRL)
		Open	Expires: 08/13/20	HMGP	2014: 4162.0004, MSB Matanuska River Erosion Mitigation Project - Butte Area (10 Properties, 11 Homes RL/SRL)

Table 9-8 Mitigation Goals and Disaster-Funded Actions

Goals		Status		Funding Sources	Actions
No.	Description	Unfunded Brought Forward, Open, Closed	New, Ongoing	State Level	Description
		Open	Expires: 08/13/20	HMGP	2014: 4162.0005, MSB Matanuska River Erosion Mitigation Project - Sutton Area (5 Properties, 5 Homes RL/SRL)
		Open	Expires: 08/01/19	HMGP	2015: 4244.0003, State of Alaska, Department of Natural Resources, Division of Parks and Outdoor Recreation (State of Alaska / DNR-DOPR), Anchor River State Recreational Area Embankment Stabilization Project
		Open	Expires: 09/15/18	HMGP	2015: 4244.0004, Kenai Peninsula Borough (KPB), GIS Software for Land Cover Hazard Assessment
		Withdrawn	N/A	--	2015: 4244.0004, Kenai Peninsula Borough (KPB), Extreme Fire Hazard Forest Fuel Mitigation Project
		Withdrawn	N/A	--	2015: 4244.000?, Alaska Railroad Corporation (ARRC), Hazardous Fuels Reduction Mile Post (MP) 185 to 194 Mitigation Project
		2016 Unfunded	N/A	HMGP/PDM	2016: 4257.000?, UAA, Seismic Gas Shut-off Valves (30) Project
		2016 Unfunded	N/A	HMGP/PDM	2016: 4257.000?, Hughes Tribal Council, Tribal Bldg. Elevation Project (RL/SRL)
		2016 Unfunded	N/A	HMGP/PDM	2016: 4257.000?, Nunam Iqua, Swan Lake Boardwalk Elevation Project (RL/SRL)
		2016 Unfunded	N/A	HMGP/PDM	2016: 4257.000?, City of Alakanuk, Tribal Office Structure Relocation Project
		2016 Unfunded	N/A	HMGP/PDM	2016: 4257.000?, City of Fairbanks, Public Works Cold Storage Bldg. Seismic Retrofit Project
		2016 Unfunded	N/A	HMGP/PDM	2016: 4257.000?, City of Fairbanks, Fire Station No.3 Seismic Retrofit Project
		2016 Unfunded	N/A	HMGP/PDM	2016: 4257.000?, City of Fairbanks, Public Works Facility Bldg. Structure Retrofit Project
		2017 Unfunded	All	HMGP/PDM	2017: No projects funded at this time
		Unfunded	All	HMGP/PDM	2018: No projects funded at this time
MH 4	Increase funding opportunities for hazard mitigation actions and initiatives such as agency and community planning and project implementation	2017 Unfunded	N/A	HMGP/PDM	2017: No projects funded at this time
		2018 Unfunded	N/A	HMGP/PDM	2018: No projects funded at this time

9.5. EVALUATING AND PRIORITIZING MITIGATION ACTIONS

DMA 2000 requirements and governance regulations for implementing mitigation actions are as follows:

DMA 2000 Requirements	
STANDARD STATE: Prioritizing Mitigation Actions	
S9.	Does the plan prioritize mitigation actions to reduce vulnerabilities identified in the risk assessment? [44 CFR §201.4(c)(3)(iii) and (iv)]
STANDARD STATE: Prioritizing Mitigation Actions	
RL5.	Did Element S13 (local and tribal, as applicable, capabilities) address RL and SRL properties? [44 CFR §§201.4(c)(3)(ii) and 201.4(c)(3)(v)]
Source: FEMA, March 2015	

The State of Alaska has a long history of supporting state and community mitigation activities, as well as sponsoring its own mitigation programs. DHS&EM Hazard Mitigation staff are very successful in developing State mitigation policies and initiatives while garnering SHMAC participant validation. Project costs are shared by FEMA and the State at 75 and 25 percent respectively. Each state differs in its method of attributing the cost share; historically the State of Alaska with governor support has funded this match.

The State provides this information to local and tribal governments to develop their own plans, which will bring them in compliance with the DMA 2000 local and tribal HMP requirements. Once local and tribal communities fulfill FEMA HMP criteria, formally adopt their plans and receive FEMA final approval they can apply for FEMA and other federal agency grants.

To be eligible for HMGP funding, applicants must be: a state agency, a local government, a private non-profit organization, an Alaska Native Village or organization, or a federally recognized IRA tribe. An eligible applicant must apply to the State (specifically DHS&EM) for funding, and may submit hazard mitigation plan development or construction projects (e.g., structural flood control [debris basins or floodwalls], retrofitting [seismic or flood], and structure acquisition or relocation away from hazard-prone areas [flood or avalanche]) to be considered by the State. Projects must meet the State's minimum criteria:

- Does the project conform to the State Hazard Mitigation Plan?
- Does the project provide a beneficial impact on the designated area such as RL/SRL locations?
- Is it cost effective?
- Will the project meet environmental requirements?

Available Funding Notification

DHS&EM notifies local communities, tribal governments, and state agencies of available HMGP funding for each disaster. Prospective applicants are provided Preliminary Project Proposal Sheets with instructions to briefly describe proposed mitigation projects, estimate project costs, and indicate whether the project has addressed repetitive problems.

The State Hazard Mitigation Officer (SHMO), along with DHS&EM leadership and mitigation staff sort project submittals, then categorize them according to SHMP goals, and prioritizes in numerical order after ensuring that they adhere to the following:

1. Projects that address life safety concerns,
2. Local hazard mitigation plan development,
3. Other eligible mitigation projects, such as NFIP-identified RL or SRL properties,
4. Non-eligible projects or initiatives:
 - a. Other available funding sources – Non-natural hazards (e.g., Terrorism, HAZMAT)
 - b. Not mitigation projects: (e.g., aircraft, boats, or equipment)

Once the initial proposed project submittal sorting is completed, the list is reviewed and tentatively approved by FEMA Region 10’s hazard mitigation staff to validate DHS&EM’s project eligibility assessment.

Specific projects could qualify as a FEMA “Expedited” or “Fast Track” project or initiative. FEMA “Expedites” or “Fast Tracks” projects to quickly fund state-identified priority projects that would not only fulfill SHMP goals, but also quickly relieve stress and hardship. This process is especially beneficial after small disasters where minimal funding is available and proposed projects are not very complex. FEMA’s Hazard Mitigation staff support this simple easily approved process because it supports FEMA’s goal of quickly funding projects to protect lives and property while mitigating future disaster losses in high-hazard areas.

State Hazard Mitigation Advisory Committee

The SHMAC was developed as an essential inter-agency coordination process when DMA 2000 was first implemented. SHMAC membership consists of agency-selected representatives with responsibility for agency-specific mitigation needs and priorities, which supports their agency’s respective missions.

The SHMO convenes a panel consisting of key SHMAC members to further refine project priority. The typical team comprises:

- DHS&EM State Hazard Mitigation Officer (SHMO),
- DHS&EM State Disaster Mitigation Officer,
- Department of Environmental Conservation (DEC),
- Department of Natural Resources (DNR),
- Applicable Borough Emergency Manager,
- Applicable state agency infrastructure subject-matter-experts,

Additional selection criteria can include:

1. Does the project reduce the threat to health and safety?
 - a. Does it reduce the threat to public facilities?
 - b. Does it reduce the threat to private facilities or homes?
 - c. Are the properties NFIP-designated as RL or SRL properties
2. Does the applicant have an ongoing hazard mitigation program that indicates commitment?
3. Does the project provide a long-term solution?
4. Has the applicant stated a willingness to maintain the project once it is completed?

Projects on the attached spreadsheet are only those that are consistent with the State Hazard Mitigation Plan’s Vision and Mission Statements:

- Minimize loss of life and injuries
- Minimize damages
- Facilitate the restoration of public services
- Promote economic development

To achieve these goals, the State Hazard Mitigation Plan should include measures to:

1. Save lives and reduce injuries
2. Prevent or reduce property damage
3. Reduce economic losses
4. Minimize social dislocation and stress
5. Maintain critical facilities in functional order
6. Protect infrastructure from damage
7. Protect legal liability of government and public officials

Essential Required Actions – Agencies

1. Obtain SHMAC review and preliminary, project proposal priority consensus
2. Obtain SHMAC concurrence with proposed Expedited or Fast Track Proposals
3. Submit prioritized projects for DHS&EM director’s (or GAR) approval for FEMA submission
4. DHS&EM will subsequently work with applicants to obtain comprehensive project applications
5. DHS&EM will submit completed applications to FEMA Region 10 for review, approval, and funding before project submission deadlines for applicable disaster or grant submittal period

9.6. MITIGATION ACTION PLAN

DMA 2000 requirements and governance regulations for implementing mitigation actions are as follows:

DMA 2000 Requirements	
STANDARD STATE: Mitigation Strategy Implementing Mitigation Actions	
S10.	Does the plan identify current and potential sources of funding to implement mitigation actions and activities? [44 CFR §201.4(c)(3)(iv)]
Source: FEMA, March 2015	

In the state of Alaska, funding for mitigation planning and projects is available through multi-agency appropriations, grants, and contracts.

Alaska’s participating agency mitigation project selections, although jointly accomplished, require vastly different implementation and management processes. Each agency has specific authorities, laws, and regulations that grant funding authority, funding allocations, and applicant grant eligibility. Table 9-9 provides an abbreviated Alaska State and federal agency

programmatic funding resource list. Appendix 13.24 provides a more detailed potential funding source list.

Direct State Disaster Mitigation Funding

While the state of Alaska has Public Assistance and Individual Assistance programs under state-declared disasters, it does not have a state disaster mitigation program. However, there have been a few occasions in which the governor and/or legislature have elected to identify and fund mitigation work through the State Disaster Relief Fund (DRF). These actions were taken under discretionary authority and no permanent state mitigation program was established.

State Provision of Non-Federal Match to Federal Mitigation Programs

Many federal mitigation programs require a local non-federal funds match. The match required varies with the program regulations and community being granted funds. There are several mitigation programs in which the State of Alaska provides the entire non-federal match for local communities resulting in 100 percent of funds being granted to the community for mitigation. These programs include the Public Assistance 406 Mitigation and Hazard Mitigation Grant Program (HMGP) which are funded under federally declared disasters. The matching funds are paid through the State Disaster Relief Fund (DRF). Therefore, while these programs are federal mitigation programs; the State provides substantial funding, sometimes totalling millions of dollars. On occasion the State has likewise provided a portion of the non-federal match for National Resource Conservation Service (NRCS) projects.

DHS&EM Project and Funding Review Process

- Reviews potential projects and relevant funding sources to identify RL/SRL properties to acquire, elevate, or relocate away from high hazard threat areas
- Reviews project benefit/cost analysis (or conducts on communities' behalf) for viability as to FEMA expectations
- Schedules a SHMAC teleconference to review and validate selected projects
- Guides SHMAC with determining applicant project's funding priorities against available State/FEMA project funding availability
- Requires applicants to further refine data, drawings, engineering plans, benefit/cost analysis etc. prior to submitting to FEMA

Table 9-9 lists brief funding resource agencies and their respective acronyms. Appendix 13.24 provides detailed funding agency resource descriptions as well as funding agency website locations.

Table 9-9 Potential Funding Source Acronym List
(See complete funding resource description in Appendix 13.24)

US Department of Homeland Security (DHS) Citizen Corps Program (CCP) Emergency Operations Center (EOC) Homeland Security Grant Program (HSGP) Emergency Management Performance Grant (EMPG) State Homeland Security Program (SHSP)
Federal Management Agency (FEMA)/ Hazard Mitigation Assistance Grant Programs (HMA) Emergency Management Program Grant (EMPG) Debris Management Grant (DM) Flood Mitigation Assistance Grants (FMA)

Table 9-9 Potential Funding Source Acronym List

(See complete funding resource description in Appendix 13.24)

National Earthquake Hazards Reduction Program (NEHRP)
National Dam Safety Program (NDS)
Emergency Food and Shelter (EF&S)

US Department of Commerce (DOC)/
Remote Community Alert Systems Program (RCASP)

National Oceanic and Atmospheric Administration (NOAA)
Economic Development Administration (EDP)
Public Works and Development Facilities Program (PWDFP)

US Environmental Protection Agency (EPA)/
Indian Environmental General Assistance Program (IGAP)

US Department of Agriculture (USDA)/

USDA, Farm Service Agency
Emergency Conservation Program (ECF)
Rural Development (RD)

USDA, Natural Resources Conservation Service (NRCS)
Conservation Technical Assistance Program (DCT)
Conservation Innovation Grants (CIG)
Environmental Quality Incentives Program (EQIP)
Emergency Watershed Protection Program (EWP)
Watershed Planning (WSP)

US Geological Survey (USGS)
Alaska Volcano Observatory (AVO)

US Department of Housing and Urban Development

Assistance to Native Americans (ANA)
Native American Housing Assistance and Self Determination Act (NAFSA)

US Army Corps of Engineers (USACE)/
Planning Assistance Program (PAP)
Capital Projects: Erosion, Flood, Ports & Harbors

Alaska Department of Military and Veterans Affairs (DMVA)
Division of Homeland Security and Emergency Management (DHS&EM)
Mitigation Section (for PDM & HMGP projects and plan development)
Preparedness Section (for community planning)

Alaska Department of Community, Commerce, and Economic Development (DCCED)
Division of Community and Regional Affairs (DCRA)/
Community Development Block Grant (CDBG)
Alaska Climate Change Impact Mitigation Program (ACCIMP)
Flood Mitigation Assistance Grants (FMA)

Alaska Department of Transportation
State road repair funding

Alaska Energy Authority (AEA)
AEA/Bulk Fuel (ABF)
AEA/Alternative Energy and Energy Efficiency (AEEE)

Alaska Department of Environmental Conservation (DEC)/
Village Safe Water (VSW)
DEC/Alaska Drinking Water Fund (ADWF)
DEC/Alaska Clean Water Fund [ACWF]
DEC/Clean Water State Revolving Fund (CWSRF)

Alaska Division of Forestry (DOF)/
Volunteer Fire Assistance and Rural Fire Assistance Grant (VFAG/RFAG)
Assistance to Firefighters Grant (AFG)
Fire Prevention and Safety (FP&S)
Staffing for Adequate Fire and Emergency Response Grants (SAFER)



Table 9-9 Potential Funding Source Acronym List*(See complete funding resource description in Appendix 13.24)***Denali Commission (Denali)**

Energy Program (EP)

Solid Waste Program (SWP)

Lindbergh Foundation Grant Programs (LFGP)**Rasmussen Foundation Grants (RFG)**

The MAP lists the state's priority projects and initiatives to address various hazard impact threats. Table 9-10 defines how each mitigation action will be implemented and administered by responsible agencies or SHMP partners.

The MAP lists each selected mitigation action, their priorities, the responsible agency office, potential funding resource(s), the anticipated implementation timeline, and provides a brief explanation as to how the overall benefit/costs and technical feasibility were taken into consideration.

Note: The MAP identifies the "responsible office" for project or initiative implementation as the responsible entity for grant management for each project grant received for their specific organization due to sometimes frequent personnel transitions.

Table 9-10 State of Alaska SHMP Mitigation Action Plan (MAP)

(Blue Italicized Initiatives were brought forward from legacy SHMP or other identified plans)
(See Table 9-9 Potential Funding Agency list; Appendix 13.24 contains agency programmatic details)

Goal/ Action ID	Project Description	Priority: High	Responsible Offices or Agencies	Potential Funding Source(s)	Timeframe 1-3 Years 2-4 Years 3-5 Years	Benefit-Costs (BC) / Technical Feasibility (T/F)
Multi-Hazard (MH)						
MH 1.1	Host workshops for builders to teach or demonstrate new multi-hazard construction techniques. (E.g., seismic, flood, ground failure, weather, wildfire, etc.)	✓	Lead: Fire Marshall's Office, Construction Industry Support: DCCED, Anchorage Geotechnical Commission, Insurance Industry, AHFC, mortgage lenders	DHSEM, FEMA HMA, DOF, FMAG, AFG, FP&S, SAFER, ANA, EEFSP, Denali Commission, Lindberg Grants Program, Rasmussen Fund	1-3 years	B/C: Sustained mitigation outreach program has minimal cost and will help build and support area-wide capacity. This type activity enables the public to prepare for, respond to, and recover from disasters. TF: This low cost activity can be combined with recurring community meetings where hazard specific information can be presented in small increments. This activity is ongoing demonstrating its feasibility.
MH 1.2	Encourage the legislature efforts to establish new agency programs that provide readily available locational hazard risk information to the public. (E.g., seismic, flood, ground failure, weather, wildfire, etc.)	✓	Lead: State Legislature, Local communities Support: DHS&EM, Governor's Office, DCCED, ASHSC	State Legislative and disaster funding processes	0-5 years	B/C: Working with the legislature to develop viable will assure that all agencies will be required to cooperatively produce viable products that fulfill individual agency needs. TF: This is technically feasible using existing agency resources.
MH 1.3	Continue all-hazard focused safety education and preparedness in Alaska's schools.	✓	Lead: DEED, DHS&EM Support: ARC, AEIC, DEED, AST, local communities	DHSEM, FEMA HMA, DOF, FMAG, AFG, ANA, Denali Commission, Lindberg Grants Program, Rasmussen Fund	Ongoing	B/C: This project will ensure communities and agencies look closely at their hazard areas to ensure they can safely prepare students, residents, and visitors to evacuate during a natural hazard event. TF: This is technically feasible using existing agency resources.
MH 1.4	Educate Alaska communities about the benefits of the NFIP, Storm Ready, and Firewise programs.	✓	Lead: DCCED NFIP Coordinator, DOF, and NOAA Support: DHS&EM, DNR, DOT/PF	DHSEM, FEMA HMA, DOF, FMAG, AFG, FP&S, SAFER, ANA, EEFSP, Denali Commission, Lindberg Grants Program,	1-3 years	B/C: NFIP participation while one of FEMA's highest priorities also enables communities with an effective program focus on repetitive flood loss properties and other priority flood locations and projects.

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Goal/ Action ID	Project Description	Priority: High	Responsible Offices or Agencies	Potential Funding Source(s)	Timeframe 1-3 Years 2-4 Years 3-5 Years	Benefit-Costs (BC) / Technical Feasibility (T/F)
				Rasmussen Fund		NOAA's Storm Ready and Tsunami Ready, as well as DOF's Firewise programs train communities how to reduce their natural hazard threats. TF: The project is technically feasible using existing agency programs, staff, and resources.
MH 1.5	Encourage non-structural mitigation and preparedness activities using an all-hazards approach.	✓	Lead: DEED, DHS&EM Support: ARC, AEIC, DEED, AST, local communities	FEMA HMA, ANA, DCCED DOF, DOT/PF, Denali Commission, Lindberg Grants Program, Rasmussen Fund	2-4 years	B/C: Non-structural mitigation projects have minimal cost and will help the community reduce recurring natural hazard impact damages. TF: This project is technically feasible using existing Tribal Council staff
MH 1.6	Expand the number and locations of modern strong motion and broadband seismic recording instruments in "low-noise" installations throughout Alaska to record and evaluate the seismic and volcanic response of built infrastructure for opportunities to improve design and construction in all hazard locations.	✓	Lead: AEIC, UAA Support: USGS, ASHSC, DHS&EM	AEC, Advanced National Seismic System (ANSS), NEHRP, National Science Foundation (NSF)	2-5 years	B/C: Coordinated planning ensures effective damage abatement and ensures proper attention is assigned to reduce losses and damage to structures and residents. Sustained mitigation outreach program is minimal in cost and will help build and support community capacity to enable the public to prepare for, respond to, and recover from disasters. TF: This action is feasible with limited fund expenditures.
MH 1.7	Provide technical assistance and development support for multi-hazard focused mitigation project grant applications that reduce future earthquake, flood, ground failure, tsunami, weather, wildland fire, etc. losses.	✓	Lead: DHS&EM, DCCED, NFIP Coordinator Support: DNR, FEMA, NOAA, NRCS, USACE	FEMA HMA, DCCED, DOF, ANA, Denali Commission, Lindberg Grants Program, Rasmussen Fund	3-5 years	B/C: Funding agencies may be able to fulfill needed training requirements for their specific programs. Trained staff would greatly improve grant writing, and reporting quality. TF: Specialized skills may need to be contracted-out depending on the skill set required for each activity.

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MH 1.8	Disseminate Alaska and Russian volcano hazard information to the civilian and military aviation communities, trade shows, and other public events.	✓	Lead: AVO Support: DGGS, DNR, NWS, DHS&EM, FAA, Aviation industry, Military aviation	FEMA HMA programs, UAGS, DNR, DGGS, AVO, DOF, DOT/FAA	1-3 years	B/C: Sustained mitigation outreach programs have minimal cost and will help build and support area-wide capacity. This type activity enables the public to prepare for, respond to, and recover from disasters. TF: This low cost activity can be combined with recurring community meetings where hazard specific information can be presented in small increments. This activity is ongoing demonstrating its feasibility.
MH 1.9	Expand volcano hazard information dissemination to all Alaskan maritime and coastal communities.	✓	Lead: USGS, NOAA Support: AVO, DNR/DGGS, UAF/GI, USCG	FEMA HMA programs, UAGS, DNR, DGGS, AVO, DOF, DOT/FAA	1-3 years	B/C: Sustained mitigation outreach programs have minimal cost and will help build and support area-wide capacity. This type activity enables the public to prepare for, respond to, and recover from disasters. TF: This low cost activity can be combined with recurring community meetings where hazard specific information can be presented in small increments. This activity is ongoing demonstrating its feasibility.
MH 1.10	Provide planning development, administrative process, technical writing, and grant application development training to improve community leadership capabilities.	✓	Lead: DHS&EM, DCCED/DCRA, DNR/DOF Support: DPS, DLAW, ICC	FEMA HMA, DCCED, DOF, ANA, Denali Commission, Lindberg Grants Program, Rasmussen Fund	3-5 years	B/C: Funding agencies may be able to fulfill needed training requirements for their specific programs. Trained staff would greatly improve grant writing, and reporting quality. TF: Specialized skills may need to be contracted-out depending on the skill set required for each activity.

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Goal/ Action ID	Project Description	Priority: High	Responsible Offices or Agencies	Potential Funding Source(s)	Timeframe 1-3 Years 2-4 Years 3-5 Years	Benefit-Costs (BC) / Technical Feasibility (T/F)
MH 2.1	Continue DHS&EM's Mitigation Section's forward progress to implement, monitor, review, and evaluate community and tribal mitigation plan identified actions.	✓	DHS&EM State Hazard Mitigation Officer (SHMO) & Grants Manager	State Disaster funds and FEMA's Emergency Management Program Grants (EMPG) and HMA programs	Ongoing	B/C: The existing team has gained experienced throughout this process which can provide invaluable insight for ensuring a sustained effort toward mitigating natural hazard damages. TF: This is feasible to accomplish as no cost is associated with the action and only relies on member availability and willingness to serve their community.
MH 2.2	State agencies will strive to coordinate, incorporate, and integrate mitigation planning provisions into all community planning processes such as comprehensive, capital improvement, and land use plans, etc. to demonstrate multi-benefit considerations and facilitate using multiple funding source consideration.	✓	All state agencies	State Agency Specific Operational Funds, Denali Commission	1-3 years	B/C: Coordinated planning ensures effective damage abatement and ensures proper attention is assigned to reduce losses and damage to structures and residents. TF: This is feasible to accomplish as cost can be associated with plan reviews and updates. The action relies on staff and review committee availability and willingness to serve their community.
MH 2.3	Encourage enforcement for all state and local jurisdictions to adopt, update to the current IBC, and enforce commercial and residential construction.	✓	Lead: Fire Marshal's Office Support: ASHSC, State Legislature, Anchorage Geotechnical Commission	FEMA, DOF, DPS, State Fire Marshall's Office, BIA, ANA	0-5 years	B/C: Building code development, implementation, and enforcement can effectively reduce future losses to hazardous events. Building codes can actually assist bush communities through making maximum use of materials and shipping costs the first time. TF: This project is technically feasible as the community need only demonstrate cost savings by demonstrating losses from history utility impacts and down time.

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(Blue Italicized Initiatives were brought forward from legacy SHMP or other identified plans)
(See Table 9-9 Potential Funding Agency list; Appendix 13.24 contains agency programmatic details)

Goal/ Action ID	Project Description	Priority: High	Responsible Offices or Agencies	Potential Funding Source(s)	Timeframe 1-3 Years 2-4 Years 3-5 Years	Benefit-Costs (BC) / Technical Feasibility (T/F)
MH 2.4	Encourage all communities to adopt or update to the current IBC for residential construction and provide sufficient resources and incentives to ensure compliance.	✓	Lead: Fire Marshal's Office Support: ASHSC, State Legislature, Anchorage Geotechnical Commission	FEMA, DOF, DPS, State Fire Marshall's Office, BIA, ANA	0-5 years	B/C: Building code development, implementation, and enforcement can effectively reduce future losses to hazardous events. Building codes can actually assist bush communities through making maximum use of materials and shipping costs the first time. TF: This project is technically feasible as the community need only demonstrate cost savings by demonstrating losses from history utility impacts and down time.
MH 2.5	Conduct statewide tests of the state's emergency warning systems annually.	✓	Lead: DHS&EM Support: AEC, NOAA, Local jurisdictions	DHS&EM, NOAA, DHS/FEMA, DOF, Denali Commission, Lindberg Grants Program, Rasmussen Fund	Ongoing	B/C: Sustained emergency response planning, notification, and mitigation outreach programs have minimal cost and will help build and support community capacity enabling the public to prepare for, respond to, and recover from disasters. TF: This project is technically feasible using existing City staff
MH 2.6	Provide sufficient resources and incentives necessary to encourage implementing IBC construction compliance for each multi-hazard category.	✓	Lead: Fire Marshal's Office Support: ASHSC, State Legislature, Anchorage Geotechnical Commission	FEMA, DOF, DPS, State Fire Marshall's Office, BIA, ANA	0-5 years	B/C: Building code development, implementation, and enforcement can effectively reduce future losses to hazardous events. Building codes can actually assist bush communities through making maximum use of materials and shipping costs the first time. TF: This project is technically feasible as the community need only demonstrate cost savings by demonstrating losses from history utility impacts and down time.

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Goal/ Action ID	Project Description	Priority: High	Responsible Offices or Agencies	Potential Funding Source(s)	Timeframe 1-3 Years 2-4 Years 3-5 Years	Benefit-Costs (BC) / Technical Feasibility (T/F)
MH 2.7	Encourage jurisdictions to document natural hazard high-risk areas in land-use, zoning, emergency response, and evacuation plans. (e.g., flood, ground failure, tsunami, wildfire, etc.)	✓	Lead: State DHS&EM, NOAA, local communities Support: AEC, DNR/DGGS, NTWC, NOAA, ASHSC	Denali Commission, Division of Community and Regional Affairs (DCRA)	Ongoing	B/C: Land Use plans are an essential community development and land management tool. Focused and coordinated planning enables effective damage abatement and ensures proper attention is assigned to reducing losses, damage, and injuries; and strengthens materials management. TF: This action is feasible with limited fund expenditures.
MH 2.8	2015: 4244.0001, City and Borough of Sitka, LHMP Update	✓	DHS&EM State Hazard Mitigation Officer (SHMO) & Grants Manager	FEMA HMA programs, NRCS, USACE, USDA, ANA, Lindbergh Grants Program, Rasmussen Fund	Expires: 10/01/18	B/C: Coordinated planning ensures effective damage avoidance or reduction and ensures proper attention is assigned to reduce losses and damage to structures and City residents. TF: This activity is technically feasible and involves effective communication, and staff resources; this activity is feasible for the City to complete.
MH 2.9	2015: 4244.0002, City of Skagway LHMP Update	✓	DHS&EM State Hazard Mitigation Officer (SHMO) & Grants Manager	FEMA HMA programs, Natural Resources Conservation Service (NRCS), USACE, US Department of Agriculture (USDA), ANA, Lindbergh Grants Program, Rasmussen Fund	Expires: 06/30/19	B/C: Coordinated planning ensures effective damage avoidance or reduction and ensures proper attention is assigned to reduce losses and damage to structures and City residents. TF: This activity is technically feasible and involves effective communication, and staff resources; this activity is feasible for the City to complete.



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Goal/ Action ID	Project Description	Priority: High	Responsible Offices or Agencies	Potential Funding Source(s)	Timeframe 1-3 Years 2-4 Years 3-5 Years	Benefit-Costs (BC) / Technical Feasibility (T/F)
MH 3.1	Develop an historical landslides, landslide prone, permafrost, and other soil instability locations inventory linked to specific ground failure hazard maps.	✓	Lead: DCCED Support: DHS&EM, DGGS, and Local communities	FEMA HMA, NRCS, USDA, USGS, DNR, DGGS, NOAA, DHSEM	2-4 years	B/C: Identifying threatened infrastructure proximity to natural hazards is vital to their sustainability. Providing advanced warning of pending disasters further reduces life loss and potentially can reduce damage if quick action is possible to mitigate the impact. TF: The project is technically feasible as the community has staff and resources they have used to relocate and elevate buildings.
MH 3.2	Promote development practices that reduce the flood risk (i.e. relocation, elevate at least 2 ft above BFE, or buy-out property). <i>* Purchased property deeds "must be" restricted for open space uses for perpetuity to keep people from rebuilding in known hazard areas.).</i>	✓	Lead: DHS&EM Support: DCCED, DOT/PF, DEED, DEC, SHMAC	FEMA HMA, NRCS, ANA, USACE, USDA, Lindbergh Grants Program, Rasmussen Fund, Cities, Tribes	1-5 years	B/C: This project would remove threatened structures from hazard areas, eliminating future damage while keeping land clear for perpetuity. TF: This project is feasible using existing staff skills, equipment, and materials. Acquiring contractor expertise may be required for large facilities.
MH 3.3	Support community relocation site planning to remove threatened structures outside threatened structures outside high hazard threat areas e.g., the cryosphere, floodplain, erosion, ground failure, etc.	✓	Lead: DCCED, USACE, DHS&EM Support: Denali Commission, FEMA, DOT/PF	FEMA, HMA, NRCS, ANA, USACE, USDA, Lindbergh Grants Program, Rasmussen Fund	1-5 years	B/C: Coordinated planning would facilitate removing threatened structures from hazard areas and potentially reduce future damage. Placing hazard locations as open space for perpetuity will keep land clear preventing future damage losses. TF: This project is feasible using existing staff skills, equipment, and materials. Acquiring contractor expertise may be required for large facilities.

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Goal/ Action ID	Project Description	Priority: High	Responsible Offices or Agencies	Potential Funding Source(s)	Timeframe 1-3 Years 2-4 Years 3-5 Years	Benefit-Costs (BC) / Technical Feasibility (T/F)
MH 3.4	2012: 4094.0004, Newtok Village Council, 7 Home Acquisition & Demolition Projects (RL/SRL)	✓	DHS&EM: State Hazard Mitigation Officer (SHMO) & Grants Manager Recipient Jurisdiction's Mayor, Administrator, Council, or Tribal Council as applicable	FEMA HMA programs, Natural Resources Conservation Service (NRCS), USACE, US Department of Agriculture (USDA), ANA, Lindbergh Grants Program, Rasmussen Fund	Expires: 12/20/20	B/C: This project would remove threatened structures from hazard areas, eliminating future damage while keeping land clear for perpetuity. TF: This project is feasible using existing staff skills, equipment, and materials. Acquiring contractor expertise may be required for large facilities.
MH 3.5	2014: 4162.0004, MSB Matanuska River Erosion Mitigation Project - Butte Area (10 Properties, 11 Homes) (RL/SRL)	✓	DHS&EM: State Hazard Mitigation Officer (SHMO) & Grants Manager Recipient Jurisdiction's Mayor, Administrator, Council, or Tribal Council as applicable	FEMA HMA programs, Natural Resources Conservation Service (NRCS), USACE, US Department of Agriculture (USDA), ANA, Lindbergh Grants Program, Rasmussen Fund	Expires: 08/13/20	B/C: This project would remove threatened structures from hazard areas, eliminating future damage while keeping land clear for perpetuity. TF: This project is feasible using existing staff skills, equipment, and materials. Acquiring contractor expertise may be required for large facilities.
MH 3.6	2014: 4162.0005, MSB Matanuska River Erosion Mitigation Project - Sutton Area (5 Properties, 5 Homes)	✓	DHS&EM: State Hazard Mitigation Officer (SHMO) & Grants Manager Recipient Jurisdiction's Mayor, Administrator, Council, or Tribal Council as applicable	FEMA HMA programs, Natural Resources Conservation Service (NRCS), USACE, US Department of Agriculture (USDA), ANA, Lindbergh Grants Program, Rasmussen Fund	Expires: 08/13/20	B/C: This project would remove threatened structures from hazard areas, eliminating future damage while keeping land clear for perpetuity. TF: This project is feasible using existing staff skills, equipment, and materials. Acquiring contractor expertise may be required for large facilities.
MH 3.7	2015: 4244.0003, State of Alaska, Department of Natural Resources, Division of Parks and Outdoor Recreation (State of Alaska / DNR-DOPR), Anchor River State Recreational Area Embankment Stabilization	✓	DHS&EM Grants Manager & DNR/DGGS Project Manager	State Disaster Fund, FEMA HMA program grants	Expires: 08/01/19	B/C: Coordinated hazard identification activities ensure consistency, enforcement; infrastructure and vegetation protection and resource expenditure reduction. TF: This activity is technically feasible and involves effective communication, and staff resources; this activity is feasible for to complete within a compressed time line.



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Goal/ Action ID	Project Description	Priority: High	Responsible Offices or Agencies	Potential Funding Source(s)	Timeframe 1-3 Years 2-4 Years 3-5 Years	Benefit-Costs (BC) / Technical Feasibility (T/F)
	Project					
MH 3.8	2015: 4244.0004, Kenai Peninsula Borough (KPB), GIS Software for Land Cover Hazard Assessment	✓	DHS&EM Grants Manager & KPB Project Manager	State Disaster Fund, FEMA HMA program grants	Expires: 09/15/18	B/C: Threatened infrastructure identification ensures proper attention is assigned to reduce losses and damage to structures and residents and effective damage abatement. TF: This is technically feasible because it requires application of knowledge of the hazard mitigation plan and other planning efforts. Feasibility is reliant on technical skills already possessed by employees holding positions that would implement this action.
MH 4.1	Identify and pursue funding opportunities to implement mitigation actions.	✓	DHS&EM State Hazard Mitigation Officer (SHMO) & Grants Manager	DHS&EM staff will use Appendix A to determine appropriate funding sources for each grant program type	Ongoing	B/C: This is an ongoing activity; essential for state agencies and rural communities as there are limited funds available to accomplish effective mitigation actions. TF: This activity is ongoing demonstrating its feasibility.
MH 4.2	Fund multi-hazard hazard mitigation retrofits projects for public facilities such as schools, bridges, airports, etc.	✓	Lead: DHS&EM, DEED, DOT/PF Support: FEMA, NRCS, FOT/PF, FHWA, State Legislature, US Congress	DEED, FEMA HMA, DO/PF, FHWA, State Legislature	1-4 years	B/C: Student focused mitigation outreach activities increase future generation's knowledge and willingness to mitigate rather than rework failing infrastructure. Outreach programs generally have minimal cost and help build and support community capacity; enabling the public to prepare for, respond to, and recover from, disasters. Siting education can ensure structures are sited away from known hazard areas. TF: This project is technically feasible using existing Tribal Council staff



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Goal/ Action ID	Project Description	Priority: High	Responsible Offices or Agencies	Potential Funding Source(s)	Timeframe 1-3 Years 2-4 Years 3-5 Years	Benefit-Costs (BC) / Technical Feasibility (T/F)
MH 4.3	Prepare and fund statewide community hazard assessments and prioritize at risk communities and infrastructure for all hazard types such as flood, erosion, storm surge, ground failure, wildfire, etc.	✓	Lead: USACE Support: DCCED, DHS&EM, Denali Commission, SHMAC	FEMA, HMA, DCCED/DCRA ACCIKMP, Denali Commission, Lindberg Grant Program, Rasmussen Fund	Ongoing	B/C: Infrastructure protection for essential facilities is a critical disaster management tool. Focused and coordinated planning enables effective damage abatement and ensures proper attention is assigned to reduce losses, damage, and materials management. TF: This type activity is technically feasible typically using existing labor, equipment, and materials. Specialized methods may require hiring contractors.
MH 4.5	Support and fund relocating structures and other infrastructure from high hazard risk areas. (e.g., cryospheric, earthquake, flood, ground failure, wildfire, etc.)	✓	Lead: DCCED Support: DHS&EM, SHMAC, DOT/PF, DEED, DEC	FEMA, HMA, NRCS, ANA, USACE, USDA, Lindbergh Grants Program, Rasmussen Fund	1-5 years	B/C: Coordinated planning would facilitate removing threatened structures from hazard areas and potentially reduce future damage. Placing hazard locations as open space for perpetuity will keep land clear preventing future damage losses. TF: This project is feasible using existing staff skills, equipment, and materials. Acquiring contractor expertise may be required for large facilities.
MH 4.6	Create a prioritized list of potential all hazard (e.g., cryospheric, earthquake, flood, ground failure, wildfire, etc.) damaged or impacted structures and prepare grant applications to relocate them away from high hazard risk areas for potential FEMA funding.	✓	Lead: DCCED Support: DHS&EM, SHMAC, DOT/PF, DEED, DEC	FEMA, HMA, USFS, NRCS, ANA, USACE, USDA, Lindbergh Grants Program, Rasmussen Fund	1-5 years	B/C: Coordinated planning would facilitate removing threatened structures from hazard areas and potentially reduce future damage. Placing hazard locations as open space for perpetuity will keep land clear preventing future damage losses. TF: This project is feasible using existing staff skills, equipment, and materials. Acquiring contractor expertise may be required for large facilities.



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MH 4.7	Support and fund community planning initiatives, e.g., Community Wildfire Protection Plan (CWPP), Hazard Mitigation Plan (HMP), and other infrastructure protection plan development by providing state funds to match grant to federal funding.	✓	Lead: State DHS&EM, DCCED/DCRA, DNR/DOF Support: FEMA, State Legislature, Governor	FEMA, HMA, USFS, DOF, NRCS, ANA, USACE, USDA, Lindbergh Grants Program, Rasmussen Fund	Ongoing	B/C: Coordinated planning ensures effective damage abatement and ensures proper attention is assigned to reduce losses and damage to structures and City residents. TF: This is feasible to accomplish as no cost is associated with the action and only relies on member availability and willingness to serve their community.
MH 4.8	Support impoverished community federal mitigation grant required matching funds for eligible mitigation projects such as HMP, USFS/AKDOF Volunteer Fire Assistance, Wildfire Protection, and climate change adaptation planning, floodplain mapping and other eligible construction project related grants.	✓	Lead: State DHS&EM, DCCED/DCRA, DNR/DOF Support: State Legislature, Governor	FEMA, HMA, ANA, USACE, USDA, Lindbergh Grants Program, Rasmussen Fund	Ongoing	B/C: Coordinated planning ensures effective damage abatement and ensures proper attention is assigned to reduce losses and damage to structures and City residents. TF: This is feasible to accomplish as no cost is associated with the action and only relies on member availability and willingness to serve their community.
MH 4.9	Disaster grant brought forward 2015: 4244.0001, City and Borough of Sitka, LHMP Update	✓	DHS&EM State Hazard Mitigation Officer (SHMO) & Grants Manager	FEMA HMA programs, NRCS, USACE, USDA, ANA, Lindbergh Grants Program, Rasmussen Fund	Expires: 10/01/18	B/C: Coordinated planning ensures effective damage avoidance or reduction and ensures proper attention is assigned to reduce losses and damage to structures and City residents. TF: This activity is technically feasible and involves effective communication, and staff resources; this activity is feasible for the City to complete.
MH 4.10	Disaster grant brought forward 2015: 4244.0002, City of Skagway LHMP Update	✓	DHS&EM State Hazard Mitigation Officer (SHMO) & Grants Manager	FEMA HMA programs, Natural Resources Conservation Service NRCS, USACE, USDA, ANA, Lindbergh Grants Program, Rasmussen Fund	Expires: 06/30/19	B/C: Coordinated planning ensures effective damage avoidance or reduction and ensures proper attention is assigned to reduce losses and damage to structures and City residents. TF: This activity is technically feasible and involves effective communication, and staff



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						resources; this activity is feasible for the City to complete.
CR 5.1	Encourage agencies to develop localized landslide and avalanche zone maps and support community risk assessment efforts that provide justification for prohibiting development in high hazard areas.	✓	Lead: DHS&EM, Local communities, Avalanche centers Support: DHS&EM, DOT/PF, DNR	FEMA HMA, NOAA, USGS, NDR, DGGS, NRCS, State Legislature	2-4 years	B/C: Identifying threatened infrastructure proximity to natural hazards is vital to their sustainability. Providing advanced warning of pending disasters further reduces life loss and potentially can reduce damage if quick action is possible to mitigate the impact. TF: The project is technically feasible as the community has staff and resources they have used to relocate and elevate buildings.
EQ 6.1	Deploy modern seismic instrumentation in critical facilities, infrastructure, and major transportation arteries to provide real-time preliminary damage assessment capability.	✓	Lead: AEIC, DOT/PF Support: UAFGI, USGS, DNR/DGGS, UAA, Advanced National Seismic Safety (ANSS)	AEC, ANSS, NEHRP, NSF	5 years	B/C: Identifying threatened infrastructure proximity to natural hazards is vital to their sustainability. Providing advanced warning of pending disasters further reduces life loss and potentially can reduce damage if quick action is possible to mitigate the impact. TF: This action is feasible with existing agency resources once funding becomes available.
EQ 6.3	Expand the number and locations of modern strong motion and broadband seismic recording instruments in “low-noise” installations throughout Alaska to record and evaluate the seismic response of built infrastructure for opportunities to improve design and construction.	✓	Lead: AEIC, UAA Support: USGS, ASHSC, DHS&EM	AEC, ANSS, NEHRP, NSF	5 years	B/C: Identifying threatened infrastructure proximity to natural hazards is vital to their sustainability. Providing advanced warning of pending disasters further reduces life loss and potentially can reduce damage if quick action is possible to mitigate the impact. TF: This action is feasible with existing agency resources once funding becomes available.



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FL 7.1	Create a prioritized list of potential flood damaged or impacted structures and prepare grant applications for FEMA funded programs.	✓	Lead: DCCED/NFIP Coordinator Support: DHS&EM, DOT/PF, DEED, DEC	FEMA HMA, DCRA, NFIP, ACCIMP, DOT/PF, NRCS, DEED, DEC, Denali Commission, Lindberg Program Grants Program, Rasmussen Fund	1-3 years	B/C: Repetitive damage reduction is a high priority for FEMA and will therefore benefit the community greatly. Identifying RL and SRL properties is the first step to reducing losses. Coordinated planning ensures effective damage abatement and ensures proper attention is assigned to reduce losses and damage to structures and City residents. TF: This is feasible to accomplish as no cost is associated with the action until appropriate mitigation actions are identified. This activity relies on community member availability and willingness to serve their community.
FL 7.2	Promote development practices that reduce the flood risk (i.e. relocation, elevate at least 2 ft above BFE, or buy-out property). * Purchased property deeds “must be” restricted for open space uses for perpetuity to keep people from rebuilding in known hazard areas.).	✓	Lead: DHS&EM Support: DCCED NFIP Coordinator, DOT/PF, DEED, DEC, SHMAC	City, Tribe, HMA, Natural Resources Conservation Service (NRCS), ANA, USACE, US Department of Agriculture (USDA), Lindbergh Grants Program	1-5 years	B/C: This project would remove threatened structures from hazard areas, eliminating future damage while keeping land clear for perpetuity. TF: This project is feasible using existing staff skills, equipment, and materials. Acquiring contractor expertise may be required for large facilities.
GF 8.1	Develop an inventory of historical landslides and landslide prone areas for use with producing location specific landslide hazard maps.	✓	Lead: USGS, DGGS Support: DOT/PF, AKRR, DHS&EM	FEMA HMA, DCRA, NFIP, ACCIMP, DOT/PF, NRCS, DEED, DEC, Denali Commission, Lindberg Program Grants Program, Rasmussen Fund	2-4 years	B/C: Identifying threatened infrastructure proximity to natural hazards is vital to their sustainability. Providing advanced warning of pending disasters further reduces life loss and potentially can reduce damage if quick action is possible to mitigate the impact. TF: The project is technically feasible as the community has staff and resources they have used to relocate and elevate buildings.



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TS 9.1	Conduct community outreach to encourage all tsunami threatened communities to participate in NOAA Tsunami Ready Program . Provide platform for discussing available mitigation partnerships, benefits, and grant opportunities by preparing: <ul style="list-style-type: none"> • Tsunami Hazard Plan (or annex to existing Emergency Operations or Comprehensive Plans), • Identify Tsunami Evacuation Routes, and • Agree to place tsunami awareness signs in their community for those that participate in the program. 	✓	Lead: DHS&EM, NOAA Support: AEC, UAF/GI, DGGs, DOT/PF, local jurisdictions	NOAA, AEC, UAF/GI, FEMA/HMA, DOT/PF, NRCS, DHS/HSEP	1-3 years	B/C: Coordinated planning ensures effective damage abatement and ensures proper attention is assigned to reduce losses and damage to structures and residents. TF: This is feasible to accomplish as cost can be associated with plan reviews and updates. The action relies on staff and review committee availability and willingness to serve their community.
TS 9.2	Contact TsunamiReady Certified communities during the third year of their TsunamiReady certification to support them throughout their renewal process.	✓	Lead: NTWC, DHS&EM, NOAA Support: Local jurisdictions, ASHSC	NOAA, AEC, UAF/GI, FEMA/HMA, DOT/PF, NRCS	Ongoing	B/C: This project will ensure the community looks closely at their hazard areas to ensure they can safely evacuate their residents and visitors to safety during a natural hazard event. TF: This is technically feasible using existing city and tribal resources.
TS 9.3	Provide tsunami hazard and evacuation signs for TsunamiReady Certified communities.	✓	Lead: DHS&EM Support: NOAA, DOT/PF, local jurisdictions	NOAA, AEC, UAF/GI, FEMA/HMA, DOT/PF, NRCS	Ongoing	B/C: This project will ensure the community looks closely at their hazard areas to ensure they can safely evacuate their residents and visitors to safety during a natural hazard event. TF: This is technically feasible using existing city and tribal resources.

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TS 9.4	Install tsunami warning sirens in at-risk tsunami communities.	✓	Lead: DHS&EM Support: AEIC, NOAA, Local jurisdictions	NOAA, AEC, UAF/GI, FEMA/HMA, DOT/PF, NRCS, DHS/HSEP	Ongoing	B/C: This project will ensure the community looks closely at their hazard areas to ensure they can safely evacuate their residents and visitors to safety during a natural hazard event. TF: This is technically feasible using existing city and tribal resources.
TS 9.5	Phase Funded Project: <ol style="list-style-type: none"> 1. Identify, locate, and characterize tsunami sources in Alaska. 2. Research and model the tsunami risk for vulnerable coastal communities. 3. Obtain bathymetric data for accurate tsunami inundation mapping. 4. Research and model the tsunami risk for vulnerable coastal communities. 5. Develop tsunami inundation maps for tsunami-threatened communities statewide. 	✓	Lead: UAF/GI, AEC, DNR/DGGS, USGS Support: NTWC, NOAA, DHS&EM, ASHSC, FEMA, NPS	NOAA, AEC, UAF/GI, FEMA/HMA, DOT/PF, NRCS, DHS/HSEP	2-4 years	B/C: Identifying threatened infrastructure proximity to natural hazards is vital to their sustainability. Providing advanced warning of pending disasters further reduces life loss and potentially can reduce damage if quick action is possible to mitigate the impact. TF: The project is technically feasible as the community has staff and resources they have used to relocate and elevate buildings.



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TS 9.6	Continue DHS&EM's participation on the NTHMP with UAF/GI, AEC, and DGGS partnership while advocating for continued joint planning, outreach, and Congressional NTHMP funding.	✓	Lead: State DHS&EM, NOAA, local communities Support: AEC, DNR/DGGS, NTWC, NOAA, ASHSC	DHS&EM, NOAA, AEC, UAF/GI, FEMA/HMA, DOT/PF, NRCS, DHS/HSEP	Ongoing	B/C: This project will ensure the community looks closely at their hazard areas to ensure they can safely evacuate their residents and visitors to safety during a natural hazard event. TF: This is technically feasible using existing city and tribal resources.
TS 9.7	Encourage NOAA to continue researching and developing rapid tsunami warning technologies such as near-real-time moment tensor inversion, extension of earthquake source inversion procedures, and "GPS shield technique" early tsunami warning efforts.	✓	Lead: DHS&EM, UAF/GI, AEC Support: University of California Berkley, NOAA	DHS&EM, NOAA, AEC, UAF/GI, FEMA/HMA, DOT/PF, NRCS, DHS/HSEP	Ongoing	B/C: This project will ensure communities looks closely at their hazard areas to ensure they can safely evacuate their residents and visitors to safety during a natural hazard event. TF: This is technically feasible using existing city and tribal resources.
VO 10.1	Conduct comprehensive volcano hazard and risk assessments for the Cook Inlet and surrounding areas and include the results into hazard mitigation planning.	✓	Lead: USGS, DNR, DGGS, AVO Support: DNR/DGGS, UAF/GI, AVO, DHS&EM	DNR, DGGS, AVO, FEMA HMA, Denali Commission, Division of Community and Regional Affairs (DCRA)	Ongoing	B/C: Hazard impact assessments are essential for community development and population protection. Focused and coordinated planning enables effective damage abatement and ensures proper attention is assigned to reducing losses, damage, and injuries; and strengthens resource management. TF: This action is feasible with limited fund expenditures.

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VO 10.2	Conduct and publish individual volcano hazard and risk assessments in Cook Inlet.	✓	Lead: USGS Support: DNR/DGGS, UAF/GI	DNR, DGGS, AVO, FEMA HMA, Denali Commission, Division of Community and Regional Affairs (DCRA)	Ongoing	B/C: Hazard impact assessments are essential for community development and population protection. Focused and coordinated planning enables effective damage abatement and ensures proper attention is assigned to reducing losses, damage, and injuries; and strengthens resource management. TF: This action is feasible with limited fund expenditures.
VO 10.3	Incorporate updated volcanic hazard assessments in State and local hazard mitigation plans as appropriate.	✓	Lead: DHS&EM, Local communities Support: DNR, DGGS, AVO, NOAA	DNR, DGGS, AVO, FEMA HMA, Denali Commission, Division of Community and Regional Affairs (DCRA)	Ongoing	B/C: Hazard impact assessments are essential for community development and population protection. Focused and coordinated planning enables effective damage abatement and ensures proper attention is assigned to reducing losses, damage, and injuries; and strengthens resource management. TF: This action is feasible with limited fund expenditures.
VO 10.4	Include updated volcanic hazard assessments in State and local Emergency Response and Operations Plans as appropriate.	✓	Lead: DHS&EM, Local communities Support: DNR, DGGS, AVO, NOAA	DNR, DGGS, AVO, FEMA HMA, Denali Commission, Division of Community and Regional Affairs (DCRA)	Ongoing	B/C: Hazard impact assessments are essential for community development and population protection. Focused and coordinated planning enables effective damage abatement and ensures proper attention is assigned to reducing losses, damage, and injuries; and strengthens resource management. TF: This action is feasible with limited fund expenditures.



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VO 10.5	Create and disseminate volcano hazard information products. Lead: AVO and its constituent agencies	✓	Lead: DNR, DGGS, AVO, NOAA Support: DSH&EM, ADEC, DHSS, Land management agencies	DNR, DGGS, AVO, FEMA HMA, Denali Commission, Division of Community and Regional Affairs (DCRA)	Ongoing	B/C: Hazard impact assessments are essential for community development and population protection. Focused and coordinated planning enables effective damage abatement and ensures proper attention is assigned to reducing losses, damage, and injuries; and strengthens resource management. TF: This action is feasible with limited fund expenditures.
VO 10.6	Conduct outreach and education on volcanic hazards and risk mitigation for the remote communities of the Alaska Peninsula and the Aleutian Islands.	✓	Lead: AVO, DHS&EM Support: NWS/NOAA	DNR, DGGS, AVO, FEMA HMA, Denali Commission, Division of Community and Regional Affairs (DCRA)	Ongoing	B/C: Sustained mitigation outreach programs have minimal cost and will help build and support area-wide capacity. This type activity enables the public to prepare for, respond to, and recover from disasters. TF: This low cost activity can be combined with recurring community meetings where hazard specific information can be presented in small increments. This activity is ongoing demonstrating its feasibility.
WX 11.1	Strive to conduct four special statewide outreach and awareness activities to support Lightning Safety Awareness Week, Winter Weather Awareness Week, Flood Awareness Week, Tsunami Ready, and Storm Ready education and certification as applicable.	✓	Lead: NWS, DHS&EM Support: DCCED, DEC, DOT/PF	DNR, DGGS, AVO, FEMA HMA, NOAA, NWS	Ongoing	B/C: Sustained mitigation outreach programs have minimal cost and will help build and support area-wide capacity. This type activity enables the public to prepare for, respond to, and recover from disasters. TF: This low cost activity can be combined with recurring community meetings where hazard specific information can be presented in small increments. This activity is ongoing demonstrating its feasibility.



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WX 11.2	Install more weather stations and “high sites” to the NWR network to facilitate expanding continuous broadcast and warning availability to remote locations.	✓	Lead: NWS Support: DHS&EM	NOAA, NWS, HSEP	Ongoing	B/C: Sustained emergency response planning, notification, and mitigation outreach programs have minimal cost and will help build and support community capacity enabling the public to prepare for, respond to, and recover from disasters. TF: This project is technically feasible using existing City staff
WX 11.3	Encourage local communities to employ and register with NOAA to receive warnings via FAX, E-Mail, radio, telephone and to transmit to public in redundant methods to fulfill StormReady criteria for redundant warning and emergency information receipt and communitywide disseminating.	✓	Lead: DHS&EM Support: NWS	NOAA, NWS, HSEP	3-5 years	B/C: Sustained emergency response planning, notification, and mitigation outreach programs have minimal cost and will help build and support community capacity enabling the public to prepare for, respond to, and recover from disasters. TF: This project is technically feasible using existing City staff
WX 11.4	Conduct workshops to train community volunteers to perform all-season Storm Spotter Network activities such as Riverwatch and other extreme weather event reporting and coordination.	✓	Lead: NWS Support: DHS&EM, local communities	NOAA, NWS, HSEP	Ongoing	B/C: Sustained mitigation activity programs have minimal cost and will help build and support community capacity enabling the public to appropriately prepare for, respond to, and recover from disasters. TF: This project is technically feasible using existing City and Tribal staff.



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WX 11.5	Conduct agency outreach activities to expand Weather Monitoring Networks to facilitate communicating warnings and severe event communication and warnings.	✓	Lead: NWS Support: DSH&EM and local communities	NOAA, NWS, HSEP	Ongoing	B/C: Sustained emergency warning, communication, and response activity capabilities enable communities to warn and protect their hazard threatened populations. This project will help build and support community capacity enabling the public to prepare for, respond to, and recover from disasters. TF: This project is technically feasible using existing City staff
WX 11.6	Encourage and conduct education or hands-on training to demonstrate the value of various hazard resistant construction practices and appropriate materials selection to improve hazard event damage resistance.	✓	Lead: NWS, Building industry, and local communities Support: DHS&EM	HMA, NRCS, USACE, USDA/EWP, USDA/ECP, DCRA/ ACCIMP	1-3 years	B/C: Identifying threatened infrastructure proximity to natural hazards is vital to their sustainability. There are currently few mapped hazard areas. This is a vital first step. This knowledge will help the community focus on activities to protect their vital infrastructure. TF: Installing emergency generators is technically feasible for this community as they already have staff to maintain existing community power generation facilities. This project typically needs to be associated with essential facility upgrades for FEMA funding
WF 12.1	Conduct Firewise and other hazard resistant construction and materials selection workshops to teach program requirements and best risk mitigation practices	✓	Lead: State DHS&EM, DCCED/DCRA, DNR/DOF Support: State Legislature, Governor	FEMA HMA, AFG, VFAG, RFAG FP&S, SAFER, HSEP	Ongoing	B/C: Sustained mitigation activity programs have minimal cost and will help build and support community capacity enabling the public to appropriately prepare for, respond to, and recover from disasters. TF: This project is technically feasible using existing City and Tribal staff.

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WF 12.2	Identify, organize, and monitor the various programs responsible for fuel management in the wildland/urban interface.	✓	<i>Lead: DNR/DOF, Local communities, BLM/AFS, DNR/DOF, USFS</i> <i>Support: FEMA, DHS&EM</i>	FEMA HMA, DOF, AFG, FMAG, VFAG, RFAG, FP&S, SAFER, HSEP, DOT/PF, Denali Commission, Lindberg Grants Program, Rasmussen Fund	1-3 years	B/C: This sustainable mitigation activity will greatly reduce the wildland/urban interface, have minimal cost, and will help build and support community capacity to respond to wildland fire disasters. TF: This project is technically feasible using existing Tribal Council staff.

9.7. MONITORING MITIGATION STRATEGY PROGRESS

DMA 2000 requirements and governance regulations for implementing mitigation actions are as follows:

DMA 2000 Requirements	
STANDARD STATE: Mitigation Strategy Implementing Mitigation Actions	
S11.	Was the plan updated to reflect changes in development, progress in statewide mitigation efforts, and changes in priorities? [44 CFR §201.4(d)]
Source: FEMA, March 2015	

9.7.1. CHANGES IN HMP DEVELOPMENT

In partnership with the community, the State guides city and tribal planners throughout the planning process; beginning with a face-to-face kick-off meeting, which a DHS&EM Mitigation Planner attends with the contractor and community leaders (city and tribal as applicable). In some instances, due to geography or inclement weather, this may be accomplished via teleconference. Performance expectations are explained for both the contractor and the community. Community involvement, project timelines, and final planning products are defined. Future meetings are scheduled with the planning team and community council to address project progress, changes, or challenges that may have occurred. A DHS&EM mitigation planner is present to build and strengthen state-/city or state-/tribal relationships. State involvement with communities ensures that the local jurisdictions are aware of state mitigation priorities, discussing the importance of collecting best available hazard data and identifying available community planning resources.

Public comments, feedback, and input are encouraged from the kick-off meeting to the final draft HMP's delivery. The DHS&EM recognizes that community insight and collective history may be the only historical information available. It is not uncommon for native tribes to orally pass down stories from generation-to-generation.

The city and tribal planning team participants examine the plan with their public. A draft HMP is made available on city/tribe websites, at town or tribal offices, community centers, or through the state/contractor as applicable. Public comments are gathered and included within the plan as needed.

After the plan has been through the public review and comment period as well as the contractor's technical editing phase the contractor will send the final draft for state-level (DHS&EM) review. The DHS&EM uses the appropriate FEMA Review Guide to ensure that the HMP meets Stafford Act and Title 44 CFR requirements. The DHS&EM will complete the appropriate FEMA Review Guide's City or Tribal Plan Review Tool and include it with the completed Mitigation Plan for FEMA review and conditional approval.

The State's review ensures that communities have integrated state mitigation priorities throughout the HMP by describing HMP's planning processes, discussing their hazard threats, infrastructure or asset vulnerabilities, and have identifying potential actions, initiatives, or projects to reduce or eliminate future damages.

The state reviews local and tribal hazard mitigation plans to glean information and influence the state's local and tribal planning processes, infrastructure risk and vulnerability assessment, mitigation priorities and strategies.

9.7.2. REVIEWING SHMP MITIGATION EFFORT PROGRESS

The SHMP planning agency team leaders (or designees) will monitor and review their respective mitigation strategy initiatives, actions, and projects to determine potential successes or roadblocks to achieving the SHMP's mitigation goals and whether implementing the Mitigation Action Plan's initiatives were successful throughout the SHMP's 5-year life cycle and report them during the annual review process.

DHS&EM will no longer track individual agency mitigation initiatives, actions, or projects. Each SHMP participating agency or authority administering their respective mitigation projects will prepare an Annual Review Progress Report (Appendix 13.6) and provide a copy to the DHS&EM SHMO. The report will identify any project changes, a list of identified implementation challenges (with appropriate strategies to overcome them), and a statement of whether or not the project has helped achieve their identified goals.

9.7.3. SHMP INTEGRATION WITHIN AGENCY PROGRAMS

Table 9-11 lists the State Agency mitigation activities' and initiatives' integration efforts and lessons learned as to their successes, challenges, and failures. Many are ongoing annual activities due to their success or other recurring challenges.

Table 9-11 Mitigation Integration – Agency Programs

Responsible Agency	Project or Activity Title	Status (Success, Challenges, Failure)	Status (New, Ongoing, Completed)	Progress
Department of Health and Social Services (DHSS)	Infestations, contamination of consumables, and infectious disease outbreaks	Success	Ongoing	Addressed in Biological Response Plan
	Health Emergency Response Operations (HERO)	Success	Ongoing	Ongoing: Health Emergency Response Operations works with local communities, healthcare facilities, state and federal agencies, and other private partners to help prepare and respond to an emergency or disaster impacting the health of Alaskans. This includes natural or manmade disasters as well as infectious disease outbreaks.
	Alaska Trauma Program	Success	Ongoing	<ul style="list-style-type: none"> • Certifying emergency medical technicians, emergency medical services instructors, emergency medical dispatchers, and ground and air ambulance services; • Reviewing and approving Emergency Trauma Technician, Emergency Medical Technician, and Mobile Intensive Care Paramedic courses in Alaska; • Administering federal grants; • Providing training and technical

Table 9-11 Mitigation Integration – Agency Programs

Responsible Agency	Project or Activity Title	Status (Success, Challenges, Failure)	Status (New, Ongoing, Completed)	Progress
				expertise to local EMS agencies.
Department of Environmental Conservation (DEC)	Environmental Health Laboratory	Success	Ongoing	Provides analytical and technical information to support state and national environmental health programs such as surveillance of: air, food, seafood, soil, water, and zoonotic diseases from domestic and wild animals.
DEC	Alaska State Public Health Laboratory (ASPHL)	Success	Ongoing	Performs rapid and conventional detection and confirmatory methods for bio-threat agents of concern on clinical (human and animal) environmental, and food specimens.
US DOT/Federal Highways Administration (FHWA)	Alaska Launches its 511 Service in April 2003 (http://511.alaska.gov) (See Figure 9-1)	Success	Ongoing	Ongoing “Alaska 511 Traveler” Webpage provides warnings, alerts, driving conditions, weather watches, and other valuable traveler information via the internet and mobile phone applications.
Division of Homeland Security & Emergency Management (DHS&EM)	Earthquake Simulator (2002-Present)	Success	Ongoing	<ul style="list-style-type: none"> Simulators have been ongoing outreach since 2002. New simulator was purchased in 2011. The State of Alaska’s new earthquake simulator provides citizens with a safe yet realistic experience of the intense shaking that can occur during an earthquake. Priority focuses on reaching a variety of audiences; including emergency responders, medical professionals, business owners, students, teachers, community leaders, and the general public. Each “Quake Simulator” event is designed as an educational experience.
	Small Community Emergency Response Plan (SCERP)	Success	Ongoing	The Small Community Emergency Response Plan (SCERP) is a new, exciting approach to emergency management for small communities. SCERP is a customized flip book with essential, community-specific information for responding to a disaster.
	Alaska Emergency Response Guide (ERG) for Small Communities (2017)	Success	Ongoing	The guide includes checklists for the first 72 hours of a disaster and actions to start the rebuilding process. In addition, it also augments information included in a Small Community

Table 9-11 Mitigation Integration – Agency Programs

Responsible Agency	Project or Activity Title	Status (Success, Challenges, Failure)	Status (New, Ongoing, Completed)	Progress
				Emergency Response Plan (SCERP).
	Community Planning to Increase Community Resiliency	Success	Ongoing	<ul style="list-style-type: none"> Community planning builds a safer, more secure, and more resilient Alaska. Prepares state and local first responders to prevent, protect, respond to, and recover from a variety of emergency situations. Alaska DHS&EM has worked with its many partners in the delivery of emergency plans to many different levels of government throughout the state.
	Alaska Community Resilience Analysis	Under Development		<p>DHS&EM's Resilience Section developed an "Alaska Community Resilience Analysis (ACRA) tool" to facilitate reviewing pertinent community data.</p> <p>These data identifies and considers their respective challenges such as the distance from medical care, safe village water availability, utility infrastructure capacity, and fuel expenses to name a few. The higher the score the higher the risk.</p>
	Alaska Partnership for Infrastructure Protection (APIP)	Success	Ongoing	The Alaska Partnership for Infrastructure Protection, or APIP, works to integrate the private and public sector critical infrastructure owners into the municipal, state, and federal emergency framework to mitigate potential damaging impacts
	Alaska [Risk] Assessment replaces the Logistics Capability Assessment (LCA)	Success	Ongoing	The Alaska Assessment expands on existing local, tribal, territorial, and other risk methodologies by broadening the factors considered in the process.
	Cyber Security Assessment	Challenges	Ongoing	Cyber Security Assessment is to improve the overall security of critical cyber infrastructure throughout the State of Alaska in all 18 Critical Infrastructure and Key Resource (CIKR) Sectors, the City of Valdez, and the MatSu Borough.
	The Great Alaska Shakeout (2018)	Success	Ongoing	<ul style="list-style-type: none"> The main goal of the ShakeOut is to get Alaskans prepared for major earthquakes, so use the ShakeOut as an opportunity to learn what to do before, during, and after an

Table 9-11 Mitigation Integration – Agency Programs

Responsible Agency	Project or Activity Title	Status (Success, Challenges, Failure)	Status (New, Ongoing, Completed)	Progress
				<p>earthquake.</p> <ul style="list-style-type: none"> Anyone in Alaska can participate, from a single individual at their home to a major company at the office. Talk to your coworkers, neighbors and friends about the ShakeOut and encourage their participation. Sign is free at: www.shakeout.org/alaska/register to be counted in the ShakeOut Drill, get email updates, and more.
	Tsunami Operations Workshop	Success	Ongoing	<p>Tsunami readiness is essential to everyone in Alaska.</p> <p>Workshop participants receive training to help them understand how to take specific actions required during and after a tsunami warning/event. The workshop provides communities the opportunity to share best practices and lessons learned with peers.</p> <p>The scientific knowledge of our federal and state partners understanding community needs combined with the communities' willingness to improve tsunami readiness improves their tsunami resilience.</p>
	Tsunami Warning Systems	Challenge	Ongoing	<p>Villages have a hard time finding qualified maintenance technicians to troubleshoot their tsunami alert system. Remote Alaska Native Villages often experience long warning down time periods between when a system goes down and when it is repaired.</p>
		Potential Resolution	New Initiative	<p>DHS&EM will send two representatives to tech school in November 2018. This activity will equip them to be the first-line of maintenance to assist with trouble shooting their community warning systems.</p>

Figure 9-3 portrays the DOT/PF's "Alaska 511 Traveler" website that provides warnings, alerts, driving conditions, weather watches, and other valuable traveler information available.

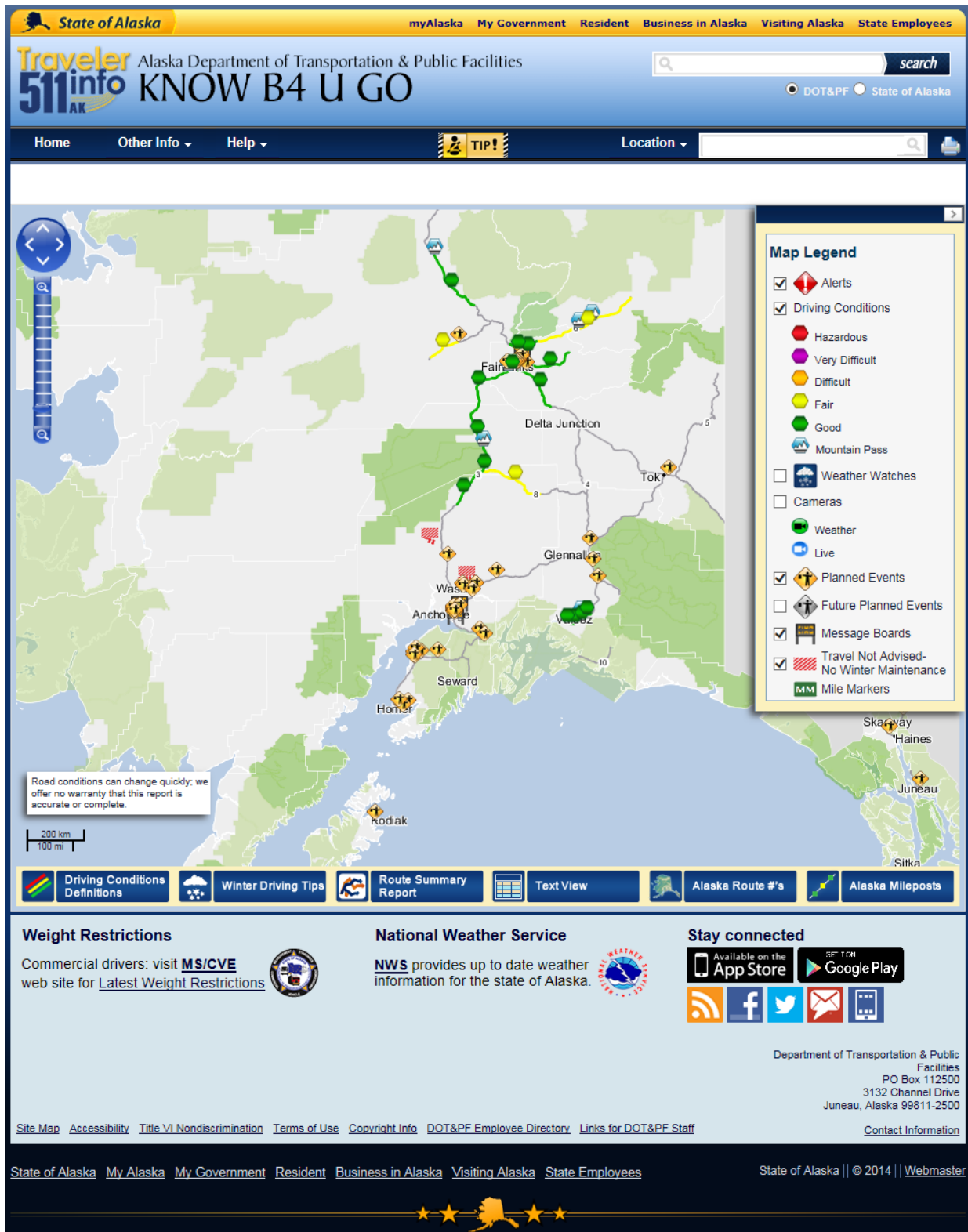


Figure 9-3 Alaska 511 Traveler Information
Source: DOT/PF <http://511.alaska.gov/alaska511/mappingcomponent/index>

Table 9-12 shares some of the state's challenges to implementing effective mitigation initiatives.

Table 9-12 SHMP Mitigation Challenges and Progress

Challenges	Progress
New best available science was incorporated, DGGS created new 2018 hazard profiles, impact consequences, and GIS datasets to assist the State with developing more accurate risk assessments and consequences were updated.	Included within the 2018 SHMP update
The economic downturn has significantly curtailed mitigation activities at the state agency level and slowed hazard mitigation planning efforts at the state and local level.	New staff making great strides to reduce backlogs
DHS&EM: staff turn-over causes extreme corporate memory loss. This prevents timely plan maintenance.	Ongoing DHS&EM management addressed concern with FEMA; several options were presented options to improve
Due to limited state revenue, many of the action items that had an anticipated end date during the lifespan of the 2013 plan did not occur.	SHMP no longer tracking outside agency hazard mitigation project status
DHS&EM local and tribal HMP projects: DHS&EM has successfully obtained funding for an average of approximately 40 new and update HMPs per planning cycle since the legacy 2013 SHMP was implemented	Ongoing <ul style="list-style-type: none">• 113 approved city plans with 48 in various development and review stages, and 58 expired plans• 30 approved tribal plans with 20 various development and review stages, and one expired plan.
Alaska has many community challenges with completing mitigation projects. Among them are local jurisdictional capacity, resources, shipping, labor and material costs, seasonal weather delays, available / accessible ports, barge access, and associated limitations and distance, etc.	Ongoing
Remote, rural, as well as more urban communities have geographical transportation challenges. <i>Rural</i> : minimum to non-existent river or air only access. <i>Urban</i> : have road access constraints such as bridge choke points, (e.g., bridge construction or accidents close the only access roads to/from Anchorage from adjacent communities).	Ongoing
Alaska's distressed or imperiled areas have excessive wait times for emergency response and medical assistance during emergencies.	Ongoing
There are vast language barriers throughout Alaska. The State should consider translating many state level plans and documents into indigenous native languages as requested to facilitate understanding.	Ongoing

9.7.4. CHANGES IN MITIGATION PRIORITIES

On July 31, 2018, DHS&EM developed and finalized a new “Hazard Mitigation Team 3-Year Campaign Plan” dedicated to conducting scheduled and coordinated programmatic outreach initiatives such as educational conferences, workshops, and training and exercise events with an integrated focus to improve DHS&EM’s programmatic reach and effectiveness. The campaign includes:

Programmatic Schedule integration with other DHS&EM Sections for the Hazard Mitigation Team. (Edited for simplification)

Conduct annual Hazard Mitigation Assistance (HMA) workshops, webinars, technical assistance and training on the HMA grant application process, benefit cost analysis (BCA), climate change, flood plain management, and environmental and historic preservation in relation to HMA project applications.

- *Annual DHS&EM Spring Conferences – HMA Sessions.*
- *Annual FEMA L0273 Floodplain Managers Course.*
- *Annual FEMA BCA Training Course.*
- *Annual FEMA G-318 Mitigation Planning Workshop.*
- *Annual FEMA/State Mitigation Consultation Meeting.*
- *Annual FEMA EO 11988/11990 Environmental and Historic Preservation Training.*
- *Annual AK Forum on the Environment / Climate Change Workshops.*
- *As Requested Community Technical Assistance.*

Provide advice and technical assistance to tribes, local jurisdictions, and eligible applicants in the development of quality Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance (HMA) Planning and Project Applications.

- *Provide technical assist for planning and project efforts as requested by communities to improve the knowledge and quality of HMA projects and plans.*

Apply for and receive Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance (HMA) Pre-Disaster Mitigation (PDM) and Hazard Mitigation Grant Program (HMGP) project “Brick & Mortar” grants to assist Local, Tribal and/or State applicants implement, manage and close out annual PDM or federal disaster HMGP projects.

- *Annually assist with the application, management, and close out process with FEMA for Local, Tribal and /or State PDM mitigation projects.*
- *Assist Local, Tribal and/or State applicants with the application, management, and close out process for FEMA for federal disaster HMGP funding, whenever HMGP funding is made available.*

Apply for and receive Pre-Disaster Mitigation (PDM) and Hazard Mitigation Grant Program (HMGP) planning grants to develop New and Updates of Local, Tribal and/or State Hazard Mitigation Plans.

- *Annually apply for 10 Local and/or Tribal Hazard Mitigation Plan Updates.*
- *Apply for FEMA PDM State Hazard Mitigation Plan Update funding to research and quantify local and tribal HMP data (e.g., changes in land use, development, and the built environment; changing population and potential vulnerabilities.*

- Optimize use of Pre-Disaster Mitigation (PDM) funding by coordinating with tribes and local jurisdictions on their hazard mitigation planning requirements; work with potential applicants on application and cost share requirements; and collaborate with Department of Commerce Community and Economic Development/Division of Community and Regional Affairs (DCCED/DCRA) State Floodplain Manager and local jurisdictions on potential Flood Mitigation Assistance (FMA) applications.
- Support and participate with DCCED/DCRA Risk MAP FEMA public and/or resilience meetings per the Alaska Mapping Business Plan.
- Support and assist the DCCED/DCRA State Floodplain Administrator for FEMA FMA Applications.

Conduct State Hazard Mitigation Advisory Committee (SHMAC) meetings quarterly, or as warranted, to prioritize projects, conduct annual review, and update the State Hazard Mitigation Plan (in accordance with SHMP Plan Maintenance Process).

- Conduct quarterly SHMAC meetings.

Work with Operations and Disaster Assistance Sections to include the Mitigation Section Staff in 100% of the Federal or State Disaster Preliminary Damage Assessments (PDA).

- Engage Mitigation Staff members to participate in all Federal/State PDA's.

Deploy Volcano, Earthquake, Tsunami, and Siren Programs to all at-risk communities:

In collaboration with Preparedness, continue the community volcano, earthquake, tsunami, and siren program campaign.

- Assist communities with the planning of sirens, placement, maintenance/technical assistance and installation as requested.
- Assist communities with the planning of evacuation routes, maps, sign placement, technical assistance and installation as requested.
- Develop and optimize implementation of National Tsunami Hazard Mitigation Program (NTHMP through NOAA) annually; includes tsunami hazard mapping products, warning sirens, NOAA TsunamiReady community recognition, outreach, and planning support.
- Implement, review and update the 3-Year Annual NTHMP Grant Program Activities.
- Apply for and receive annual NOAA/NTHMP grants to support State, Local and Tribes tsunami hazard mapping products, sirens, NOAA TsunamiReady community recognition, and outreach and planning support.

Conduct at least one Tsunami Operations Workshop annually.

- Implement, review and update the 3-Year Annual Tsunami Operations Workshop Schedule.
- Conduct annual Tsunami Operations Workshops utilizing annual NOAA/NTHMP grants.
- Support local requests for at least one Post Disaster Damage Assessment Course annually.
- National Disaster Preparedness Training Center (NDPTC) AWR 217 Tsunami Awareness,

- *FEMA P-154 Rapid Visual Screening of Buildings for Potential Seismic Hazards,*
- *ATC-20 Post-earthquake Safety Evaluation of Buildings and Rapid Observation of Vulnerability and Estimation of Risk (ROVER) trainings annually.*

Cultivate new projects with partner agencies and academia to support statewide earthquake, tsunami, and volcano preparedness.

- *Attend and participate in the FEMA Volcano Risk Assessment Workshop.*
- *Attend and participate in the Annual Tsunami Warning System Training.*
- *Attend and participate in the Annual National Earthquake Program Managers Training.*

Attend various workshops, meetings and conferences where appropriate.

- *Attend and participate in the DHS&EM Spring Preparedness Conference.*
- *Attend Association of State Floodplain Managers Conference.*
- *Attend FEMA National Annual Mitigation Stakeholders Workshop.*
- *Attend and participate in the FEMA Region X Annual Mitigation Summit.*
- *Attend and participate in the Risk MAP Communities Resilience Workshops and Meetings.*
- *Attend and participate in the USACE Silver Jackets Meetings.*

Source: DHS&EM

9.7.5. INTEGRATING MITIGATION STRATEGY INTO EXISTING PLANNING MECHANISMS

This section describes DHS&EM’s efforts to coordinate, implement, and integrate SHMP information into new and existing planning mechanisms, as stipulated by DMA 2000.

Section 3.6.1 lists Alaska’s ongoing state agency SHMP integration activities, projects, and programs. DHS&EM focused their attention on engaging SHMAC agencies and other participants in 2018, reviewing and updating their integration strategies during future annual SHMP maintenance activities.

Each SHMAC and planning team member will strive to incorporate pertinent mitigation data and initiatives into existing agency planning mechanisms whenever possible. Each member will strive to undertake the following activities within high hazard threat areas.

- Determine how state and jurisdictional development changes could impact population and demographics.
- Track land-use and new development focused changes.
- Determine how land-use and development changes could impact community vulnerabilities.
- Review agency-specific regulatory tools to assess integrating SHMP components.
- Work with pertinent community departments to increase SHMP awareness and assistance with integrating the mitigation strategy into their relevant planning mechanisms.
- Report integration successes and challenges within their respective “Annual SHMP Review, Evaluation, and Progress Forms” (Appendix 13-5).

Note: Implementing this philosophy and activities may require updating or amending specific planning mechanisms.

9.8. STATE LAND USE AND DEVELOPMENT

The SHMP's Alaska agencies and communities continually seek to maintain and upgrade their aging infrastructure.

The Alaska Department of Natural Resources maintains an area and land-use plan repository. (located at: <http://dnr.alaska.gov/mlw/planning/>). Many state land plans are over ten-years old and need revision to address changing economies, new public use patterns, development proposals, and selection of lands by newly created municipalities. Planning projects under consideration include the revision of the Susitna Recreation River Management Plan, or Prince William Sound Area Plan.

Figure 9-4 displays current area plans as well as those locations that are not currently scheduled for plan development.

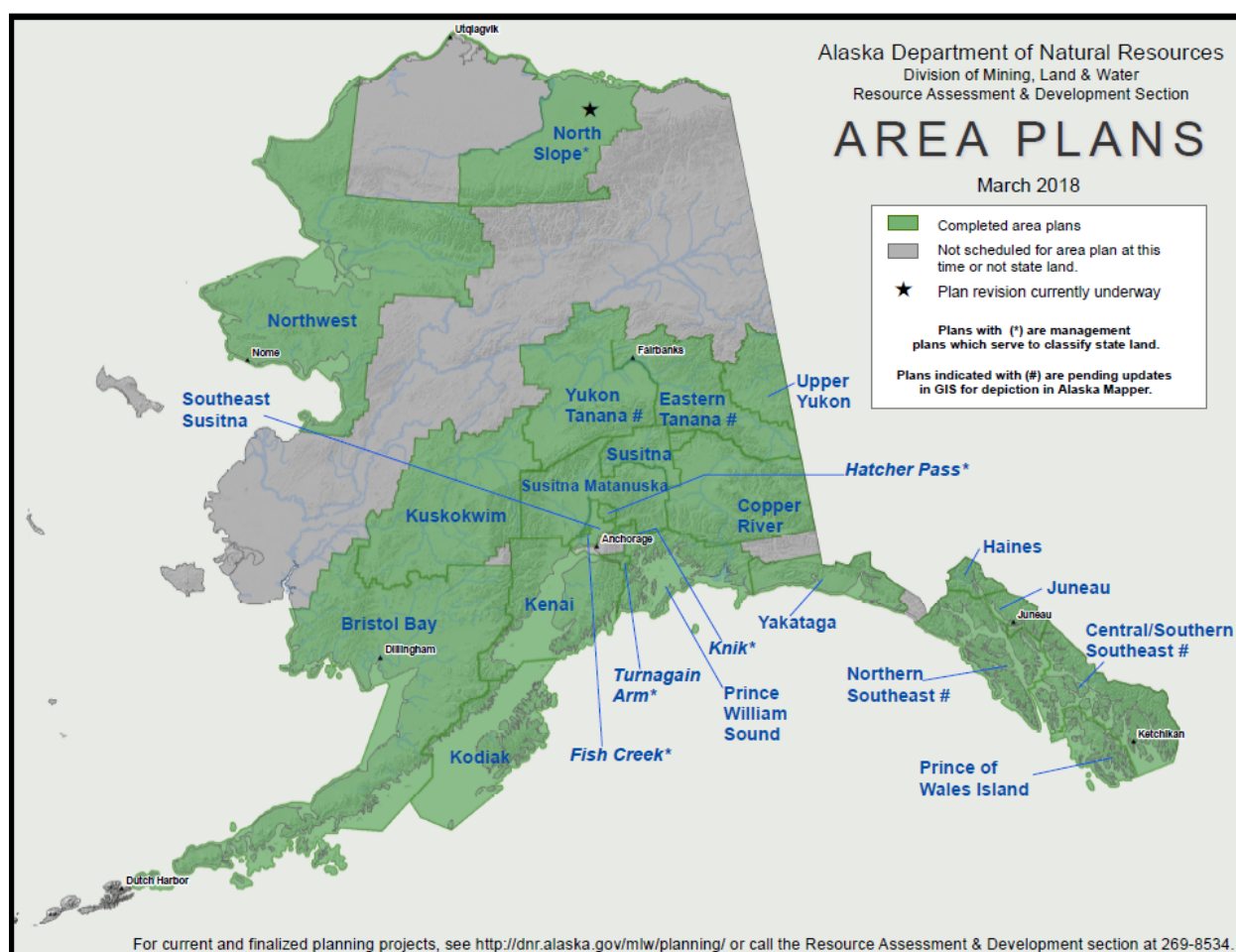


Figure 9-4 Alaska Area Plans Map Source DNR 2018

Area Plans

DNR describes the state's area and management plan's purposes, contents, and development timelines:

- Usually covers large areas (one planning area encompassed 19 million acres of state-owned land), but are also developed for areas of 250,000 acres;
- Establish goals, policies, management intent, and guidelines for the use of state land;
- Allocate the use of state land through plan designations;
- Include recommendations to retain or sell land, open or close areas to mineral entry, establish selection priorities or special land use designations, recommend legislative designations, and;
- Take two to three years to prepare.

Table 9-13 lists Alaska Area Plans and their respective completion dates.

Table 9-13 Alaska Area Plans	
• Bristol Bay Area Plan (2013)	• Prince of Wales Island Area Plan (1983)
• Central / Southern Southeast Area Plan (2000)	• Prince of Wales Island Area Plan Amendment (2008)
• Copper River Basin Area Plan (1996)	• Prince William Sound Area Plan (1988)
• Eastern Tanana Area Plan	• Southeast Susitna Area Plan (2008)
• Juneau State Land Plan (1993)	• Susitna Area Plan (1985)
• Kenai Area Plan (2000)	• Susitna Matanuska Area Plan (2011)
• Kodiak Area Plan (2004)	• Tanana Basin Area Plan (1983)
• Kuskokwim Area Plan (1998)	• Upper Yukon Area Plan (2003)
• Northern Southeast Area Plan (2002)	• Yakataga Area Plan (1995)
• Northwest Area Plan (2008)	• Yukon Tanana Area Plan (2014)

Management Plans

- Provide more detailed guidance for special areas (like recreation river corridors) or for a specific resource (like forestry), and;
- Take one to two years to complete.

Table 9-14 lists Alaska Management Plans and their respective completion dates.

Table 9-14 Alaska Management Plans	
• Dalton Highway Master Plan (1998)	• North Access Visitor Facilities Study (2004)
• Denali to Wrangell - St. Elias (1982)	• North Slope Management Plan (In-progress)
• Fish Creek Management Plan (2010)	• Nushagak and Mulchatna Rivers Recreation Management Plan (2005)
• Haines State Forest Resource Management Plan (2002)	• Scenic Resources Along the Parks Highway (1981)
• Hatcher Pass Management Plan (2010)	• Susitna Basin Recreation Rivers Management Plans (1991)
• Knik River Public Use Area Management Plan (2006)	• Susitna Forestry Guidelines (1991)

Table 9-14 Alaska Management Plans

• Matanuska Valley Moose Range Management Plan (1986)	• Turnagain Arm Management Plan (1994)
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9.8.1. CHANGES IN STRUCTURE AND INFRASTRUCTURE DEVELOPMENT

DMA 2000 Requirements

STANDARD STATE: Mitigation Strategy Implementing Mitigation Actions

S7. Was the risk assessment revised to reflect changes in development? [44CFR §201.4(d)]

Source: FEMA, March 2015

Alaska Administrative Code No. 175 defines siting and construction of state-owned, and state-financed construction projects as:

1. It is in the state's best interest to protect the state's capital investments by ensuring that future state-owned, and state-financed, construction projects are sited and constructed in a manner that reduces the potential for flood and erosion damage. The department of Community and Regional Affairs (DCRA) is the appropriate agency to be tasked with coordinating this effort.

2. The Federal Emergency Management Agency (FEMA) is responsible for the National Flood Insurance Program and through regulations has developed flood plain management criteria for flood-prone, mudflow-prone, and flood-related erosion-prone area. It is in the state's best interest to site and construct state-owned and state-financed projects using the portions of those regulations pertaining to construction standards as a guide.

The Administrative Order provides the following directions:

Under the authority of Article II, Section 1 of the Alaska Constitution and AS 26.23.150, I, Tony Knowles, Governor of the State of Alaska, hereby order:

1. To maximum extent possible, consistent with existing law, all state agencies with construction authority, or that administer grants, loans, or disaster assistance for construction, shall use pertinent portions of the FEMA National Flood Insurance Program regulations, 44 CFR Part 60, as a guide for such construction activities, and shall encourage a broad and united effort to lessen the risk of flood and erosion losses in connection with state lands and installation and state-financed or supported improvements. Specifically, state agencies directly responsible for building structure construction, and other development including grading, paving, and excavation, shall to the maximum extent possible, preclude the uneconomic, hazardous, or unnecessary use of documented flood plains and erosion areas in connection with such development.

2. DCRA is the state coordinating agency for the National Flood Insurance Program and shall assist state agencies in complying with this order.

3. State agencies responsible for the construction of, or the administration of grant or loan programs involving the construction of buildings, structures, roads, or other facilities shall consider the potential of flood and erosion hazards. Consideration shall be given to setbacks, flood proofing, building elevation, and erosion control measures in flood and erosion-prone areas.

4. State agencies responsible for the leasing or disposal of lands or properties shall, to the extent the action is economically feasible, evaluate flood and erosion hazards in

connection with lands or properties proposed for disposal and, in order to minimize future state expenditures for protection and disaster relief, shall consider including within all new subdivision proposals and other proposed developments greater than 50 lots or 5 acres, whichever is the lesser, base (100) year flood elevation data, or information on approximate flood risks.

5. State agencies responsible for programs that affect land use planning, including state permit programs, shall consistent with existing statutory and regulatory requirements, take flood and erosion hazards into account when evaluating plans and permits and shall encourage land use approximate to the degree of hazard involved.

The DCCED's Alaska Mapping Business Plan, Appendix 2 provides the following data defining Alaska's community government structure that determines their governmental powers, authorities, and responsibilities.

(<https://www.commerce.alaska.gov/web/Portals/4/pub/AKMBPA2.pdf>)

APPENDIX 2: AN OVERVIEW OF COMMUNITIES IN ALASKA

Local Government in Alaska

Most states have complex structures for local government that are comprised of multiple governmental units with narrow functions. For instance, the State of Washington provides for 17 different local government units including counties, cities, port districts, transit districts, cemetery districts, fire protection districts, hospital districts, irrigation and reclamation districts, library districts, parks and recreation districts, school districts, sewer districts, water districts, public utility districts, diking and drainage districts, health districts, and weed control districts. In the Lower 48, the agglomeration of local governments serving a particular area is comprised of units with overlapping boundaries. Each of these units generally has an independent elected government body with authority to levy taxes.

The framers of the Constitution of the State of Alaska the enjoyed great capacity to be innovative when it came to formulating local government structure for the State of Alaska. At the time, Alaska had only a rudimentary system of local government. The framers of Alaska's Constitution endeavored to avoid the complex arrangement of local government and overlapping jurisdictions frequently found in the existing 48 states. Alaska's Constitution recognizes only two types of municipal government – cities and boroughs. The term “municipality” is the generic term encompassing all classes and forms of cities and boroughs. City governments and borough governments in Alaska are municipal corporations and political subdivisions of the State of Alaska.

City governments operate at the community level. By law, the corporate boundaries of new city governments are limited to just that territory encompassing the present local community, plus reasonably predicted growth, development, and public safety needs during the next ten years. In contrast to the limits of city government, an organized borough is a regional government. Borough governments are intended to encompass large natural regions. The Alaska Constitution required all of Alaska to be divided into boroughs – organized or unorganized.

In Alaska, there are three different classifications of city government including home-rule, first-class, and second-class (Figure 1, next page, provides a map with the locations of Alaska's municipalities). Five different classes of borough government are recognized in state law including unified homerule borough, non-unified home-rule borough, first class borough and second-class borough. In total, 145 cities are not located in an organized borough and therefore lack a regional form of government. These cities are located in the “unorganized borough”, which represents a large part of Alaska. In

Alaska, 162 communities or places are incorporated as either a city or borough government in Alaska. In total, there are 114 city governments, 18 borough governments, and one community organized under federal law (Annette Island Reserve).

Legal Authority for Planning, Platting and Land Use Regulation

Community size, cultural make-up, and type of local governing structure influence the level and character of local community planning. Only cities and boroughs can have land use powers. Land use regulation, as authorized by adopted municipal planning and zoning powers, is required for only a minority of communities including boroughs, home rule cities, and first class cities. Planning and zoning is elective for second class cities, which are largely located in rural Alaska.

In total, only a minority (19 %) of Alaska's municipalities implement land use regulation. In contrast, the majority of communities (81%) may or may not engage in community planning, but do not regulate land use. These communities engage in community planning for the purpose of prioritizing grant funding, developing a shared community vision, community development strategy, and improving overall quality of life; however, they are not authorized to implement land use regulation. One of the major motivations for rural communities to engage in community planning has been to fulfill a government requirement in order to receive financial and technical assistance for physical infrastructure projects and local public services.

Of Alaska's 162 municipalities, nearly half (47%) do not exercise planning and zoning powers. In contrast, slightly over half (53%) either independently exercise planning and zoning powers (40%) or are part of a borough that has responsibility for area wide planning and zoning (13%). Of noteworthy importance, the wide majority of Alaska's communities and nearly half of Alaska's municipalities do not exercise planning and zoning authority; local residents are without land use regulation services. These communities do not have the authority to regulate development in the floodplain and are not candidates for the NFIP. In short, only 86 Alaska municipalities have planning and zoning authority or are in a borough with planning and zoning authority and are subsequently eligible to join the NFIP.

Alaska's NFIP participating communities have for the most part, instituted permitting requirements for any construction in known hazard impact areas to assure NFIP compliance. Below is a representative sample of community planning website links provide access to their comprehensive plans with associated land use initiatives. Many larger communities have similar planning capacity. However, many of the small rural-remote communities do not. The following are the NFIP program participant's community planning websites and their respective links:

- Municipality of Anchorage:
<https://www.muni.org/Departments/OCPD/Planning/Publications/Documents/Anchorage%202040%20Land%20Use%20Plan/Anchorage%202040%20LUP-Section3.pdf>
- Aniak: Not available (N/A)
- Bethel: https://www.cityofbethel.org/vertical/sites/%7B86032ACB-92B0-4505-919A-3F45B84FECD9%7D/uploads/Bethel_Comprehensive_Plan_-_2011.pdf
- Cordova:
<http://www.cityofcordova.net/images/planning/resources/2008%20Cordova%20Comprehensive%20Plan.pdf>
- Dillingham: https://www.dillinghamak.us/index.asp?SEC=DB1248ED-369C-4CC4-B8AA-E8A2021C7986&Type=B_BASIC

- Emmonak: N/A
- Fairbanks North Star Borough: <http://www.co.fairbanks.ak.us/lm/Documents/Code%20-%20FNSB%20Title%2020%20Land.pdf> and <http://www.co.fairbanks.ak.us/cp/Pages/Flood-Plain-Management.aspx>
- Fort Yukon: <https://www.tananachiefs.org/wp-content/uploads/2015/11/Fort-Yukon-Community-Plan-Final.pdf>
- Galena: <https://www.tananachiefs.org/wp-content/uploads/2015/11/Galena-2012-2017-Final.pdf>
- Haines Borough: http://www.hainesalaska.gov/sites/default/files/fileattachments/planning_and_zoning/page/1677/haines_coastal_management_plan_1_28_08.pdf
- Homer: <https://www.cityofhomer-ak.gov/planning/comprehensive-plan>
- Hoonah: <https://www.gpo.gov/fdsys/pkg/CZIC-ht393-a4-h66-1984/html/CZIC-ht393-a4-h66-1984.htm>
- City and Borough of Juneau: http://www.juneau.org/cddftp/documents/10_Land_Use.pdf; <http://www.juneau.org/cddftp/GeophysicalHazards.php>; and <http://www.juneau.org/cddftp/permit.php>
- Ketchikan Gateway Borough: <http://www.borough.ketchikan.ak.us/142/Planning-Community-Development>
- Kenai Peninsula Borough: https://library.municode.com/ak/kenai_peninsula_borough/codes/code_of_ordinances?nodeId=TI_T21ZO and Land Use Planning: <https://www.kpb.us/landmgt/land-use>
- Kotzebue: https://www.cityofkotzebue.com/vertical/sites/%7BA001CDF5-7F45-4E0C-9DFC-D296959501D1%7D/uploads/Kotzebue_Comprehensive_Plan_City_Council_Approved_1-17-13.pdf
- Koyukuk: <https://www.tananachiefs.org/wp-content/uploads/2015/11/Koyukuk-CP-2008.pdf>
- Kwethluk: N/A
- Mat-Su Borough: <https://www.matsugov.us/plans/borough-wide-comprehensive-plan>
- McGrath: <https://www.commerce.alaska.gov/dcra/DCRARepoExt/RepoPubs/Plans/FINAL%20McGrath%20Community%20Plan%202013.pdf>
- Nenana: <https://www.tananachiefs.org/wp-content/uploads/2015/11/Nenana-2013-Plan.pdf> and Tanana Area Lands: <http://dnr.alaska.gov/mlw/planning/areaplans/tanana/>
- Northwest Arctic Borough: <https://www.nwabor.org/departments/planning/>
- Petersburg Borough: <https://www.ci.petersburg.ak.us/index.asp?SEC=D00B4CC4-8B7F-4BB0-B360-940BCD613657&DE=7B864EBE-4370-47E4-BCEF-39350CE96502> and <https://www.ci.petersburg.ak.us/?SEC=32098364-8AB1-4811-87F6-3A565CDD30E0>
- Seward, Volume I: <http://www.cityofseward.us/DocumentCenter/View/391>, volume II: <http://www.cityofseward.us/DocumentCenter/View/392>, Code: https://library.municode.com/ak/seward/codes/code_of_ordinances
- Shishmaref: <https://www.commerce.alaska.gov/dcra/dcrarepoext/Pages/CommunityInfrastructureLibrary.aspx>

- City and Borough of Sitka: <http://www.cityofsitka.com/government/departments/planning/documents/TechnicalPlanDraft8Feb2018.pdf> and <https://www.codepublishing.com/AK/Sitka/?Sitka22/Sitka2204.html&?f>
- Municipality of Skagway: <https://www.codepublishing.com/AK/Skagway/> , <https://www.skagway.org/ordinances>, and https://www.skagway.org/sites/default/files/fileattachments/clerk039s_office/page/28411/complete_skagway_2020_comprehensive_plan.pdf
- Togiak: <https://www.bbna.com/wp-content/uploads/Togiak-Comprehensive-Plan-2015-Final.pdf>
- Valdez: <http://www.ci.valdez.ak.us/DocumentCenter/View/3164>,

9.8.1.1. POPULATION, BUILDINGS, AND INFRASTRUCTURE GROWTH

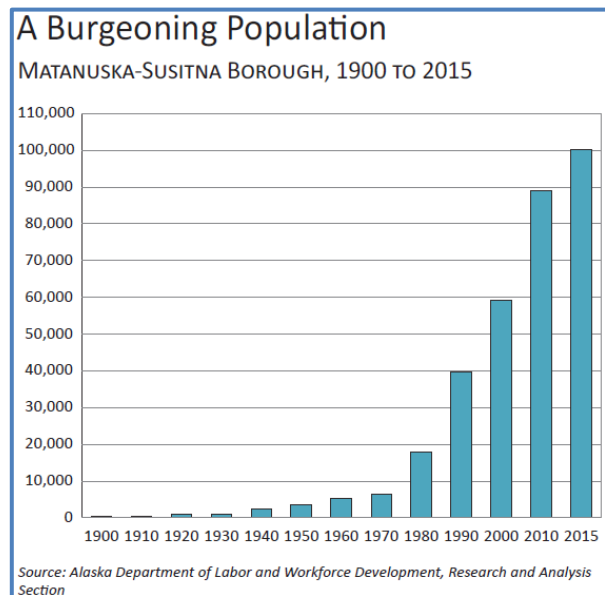
The state's population has grown steadily from 100,00 in 1946 to approximately 737,795 in 2017 spanning 19 boroughs, one unorganized borough, approximately 149 incorporated cities, 4 unified home rule municipalities, 10 home rule cities, 19 first class cities, and 116 second class cities. This growth is expected to continue well into the future due to its close proximity to Anchorage, Alaska's most populous city, the largest airport transportation and cargo hub in the nation.

Alaska's land use as it pertains to population and infrastructure vulnerabilities is not currently available. However, the Alaska Department of Labor and Workforce Development described the Matanuska-Susitna (Mat-Su) Borough as the fastest growing community in Alaska. It has become the State's second largest city. Eric Sandberg stated in Alaska Economic Trends, March 2016, the

Mat-Su Borough has averaged 3.5 percent growth per year versus 1.2 percent for the entire state...

While the net population gains from Anchorage migration are not at the oil-boom levels of the early '80s, Mat-Su has gained more than 500 people per year from its neighbor since 1990. Through the 1990s and most of the 2000s, this inflow grew steadily as a more measured housing boom brought in more movers...

In the areas southwest of Wasilla along Knik-Goose Bay Road, average yearly growth has topped 6 percent. This area, home to around 4,500 people in 2000, has added more than 9,500 people in the last 15 years. Other areas have also topped the borough average, including south and northwest of Wasilla as well as areas near the Glenn-Parks Interchange, which have all grown by over 4 percent a year. Source: DLWD 2018



The Mat-Su Borough's growth is depicted in the article's "A Burgeoning Population" figure above as well as the information in "Section 8.2.1.4 Population, Table 8.5 Population" and "Table 8.6 2018 Property Values." These data validates the state's various growth challenges,

e.g., population growth requires additional housing and subsequent infrastructure improvements requiring increase community services.

Building inspection and location risk vulnerabilities are directly related. For example, the Mat-Su Borough's City of Palmer building inspectors 'work load increased from previous years for conducting new residential and commercial properties. The work included plan reviews and occasional code questions for 1020 properties in 2015, 905 in 2016 and 865 in 2017. All of these numbers reflect new construction code compliance inspections. They do not take into consideration additional inspection duties.

The state has been continually improving transportation infrastructure since the legacy 2013 SHMP was implemented:

- DOT/PF highway bridge improvements to meet the most current seismic codes,
- Mat-Su Borough highway bridge improvements to meet most current seismic codes,
- Alaska railroad (AKRR) bridge improvements to meet the most current seismic codes.

National and state demands for obtaining additional and more affordable natural gas, created a demand to determine the most affordable and beneficial route for a new 800 mile long natural gas pipeline. The project includes determining how best to deliver product to Alaska communities along the new pipeline's route to the sea. The Alaska Natural Gas Pipeline (AKLNG) project requires extensive environmental impact assessments, terrain route challenges, numerous natural hazard impact location considerations, river crossings, coastal access assessments, and potential design features that need to be considered for the most seismically active region in the nation.

DGGS analyzed how the state's natural hazards could potentially impact our population centers. They collected and analyzed new natural hazard data, developed GIS datasets, and potential locational hazard maps. AECOM used these data to develop a set of new hazard vulnerability maps with a few of Alaska's larger community's locations relative to each hazard (Appendix 13.27). These maps will form the baseline these jurisdiction when deciding how and where to allow new development. However, land use data as it pertains to infrastructure vulnerabilities is not currently available.

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