Alaska Department of Commerce, Community, and Economic Development
Division of Community and Regional Affairs

Public Review Draft Action Plan 2025
Community Development Block Grant – Disaster Recovery (CDBG-DR)
2022 Typhoon Merbok
FEMA Disaster No. 4672

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Record of Amendments

The following table summarizes amendments to the CDBG-DR Public Action Plan for 2022 Typhoon Merbok, FEMA Disaster No. 4672.

Date Action Plan was initially approved by HUD:
TBD

Date Amendment Approved by HUD	Amendment Number	Description of Amendment

1. Executive Summary

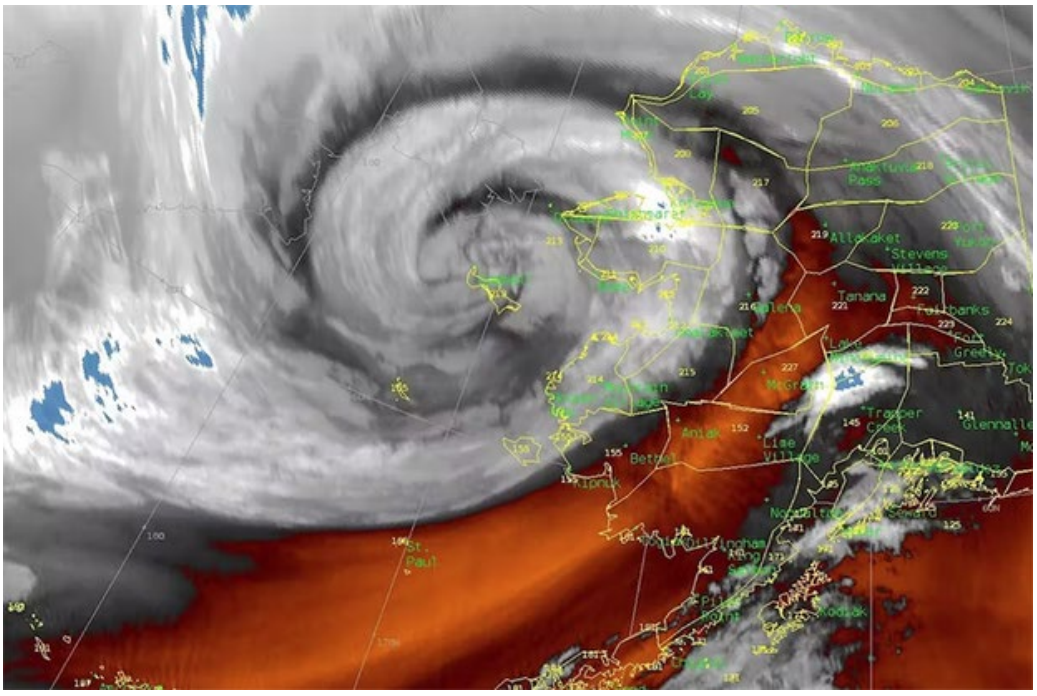
1.1. Overview

The U.S. Department of Housing and Urban Development (HUD) announced that the State of Alaska will receive $38,493,000 in funding to support long-term recovery efforts following FEMA DR-AK-4672 Typhoon Merbok in 2022, through the State of Alaska Department of Commerce, Community, and Economic Development (DCCED), Division of Community and Regional Affairs. HUD allocated $38,493,000 in CDBG-DR funds to the State of Alaska in response to FEMA DR-AK-4672 through the publication of Federal Register Notice Vol. 88, No. 96, published on May 18, 2023 (FR -6393-N-01). This allocation was made available through Public Laws 117-180 and 117-328. Community Development Block Grant – Disaster Recovery (CDBG-DR) funding is designed to address needs that remain after all other assistance has been exhausted. This plan details how funds will be allocated to address the remaining unmet need in over 50 communities in Western Alaska.

1.2. Disaster Specific Overview

From September 15 – 20, 2022, Typhoon Merbok impacted approximately 1,300 miles of the Western and Northwestern Alaska coastline, affecting over 50 communities in the Bering Strait, Lower Yukon, Lower Kuskokwim, Kashunamiut, Yupiit, and Pribilof Islands Regional Education Attendance Areas (REAAs). The storm began as a typhoon in the north-central Pacific Ocean, in atypically warm waters, and arrived in Alaska early in the autumn storm season when there was no sea ice to protect coastal communities.

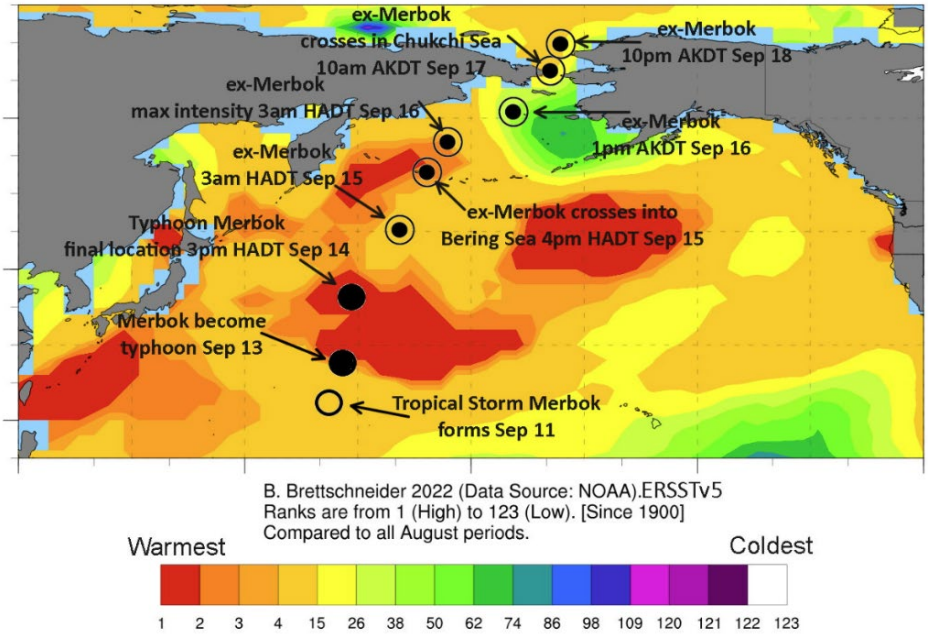
Figure 1. Typhoon Merbok Spins off the Coast of Western Alaska



Source: National Weather Service

The storm produced hurricane-force winds, higher-than-normal tidal ranges, and storm surges of up to 10 feet above mean sea level. Coastal and riverine flooding, wind damage, and severe erosion were reported throughout the region. Buoy station 46035, located 310 nautical miles north of Adak, recorded wind gusts of 76 miles per hour (mph) and seas of 52 feet. The storm's minimum central pressure was recorded at 937 millibars (mb) – the lowest pressure recorded in the Bering Sea in September since 1950. While storms are not unusual in the Bering Sea, Typhoon Merbok was unusual due to its formation early in the season and far east of Japan, where sea surface temperatures are historically too cold for tropical cyclone formation. In 2022, the area saw the highest recorded temperatures since 1900.

Figure 2. Track of Merbok, September 11-18, 2022 – August 2022 Sea Surface Temperature Ranks Relative to 1900-2021



Source: Brettschneider, B. with data from NOAA

Initial impacts were reported in the Western and Central Aleutians and the Pribilof Islands, with damaging winds over 70 mph in some communities. The storm then moved into the Yukon-Kuskokwim Delta, where winds gusted over 60 mph and storm surges caused significant coastal flooding. Inland areas along the Yukon River also experienced flooding. As the storm reached Norton Sound and the southern Seward Peninsula, it caused the worst flooding in nearly 50 years. Water levels rose 8 to 13 feet above the normal high tide line, with the highest flood depths reported in Golovin at over 17 feet. Impacts continued as the weakening system moved into the Chukchi Sea, where additional flooding and erosion occurred.

Communities across the Bering Strait, Lower Yukon, Lower Kuskokwim, Kashunamiut, Yupiit, and Pribilof Islands REAAs experiences damage to homes, critical infrastructure, and culturally significant sites. Coastal and riverine flooding damaged roads, airstrips, power systems, barge landings, and water and wastewater facilities. Many communities lost essential public services and floodwater protection infrastructure such as berms and seawalls. Debris were scattered across the coastline. Personal property and subsistence resources – boats, drying racks, fish camps, and traditional hunting and gathering areas – were impacted in the middle of the fall subsistence season.

Figure 3. Flooding and Debris in Golovin due to Typhoon Merbok

Source: 1) U.S. Coast Guard; 2) Jeremy Edwards, FEMA

The State of Alaska activated its Emergency Operations Center on September 14, and the Governor declared a state disaster on September 17. The Governor formally requested a federal major disaster declaration on September 20, citing severe threats to life and property. President Biden approved the declaration on September 23, authorizing Individual Assistance, Public Assistance (Categories A-G), and the Hazard Mitigation Grant Program under FEMA Disaster #4672. Further amendments expanded assistance to include debris removal and permanent work in additional REAAs.

Typhoon Merbok underscored the increasing frequency and severity of coastal hazards in Alaska and the urgent need for long-term recovery solutions, as described in *The Unmet Needs of Environmentally Threatened Alaska Native Villages* (ANTHC 2024). The communities impacted are predominantly Alaska Native, remote, and environmentally threatened. Many residents live at or below the federal poverty line, and private property insurance is often unavailable or cost prohibitive. Recovery efforts have been

compounded by the high cost of construction, supply chain limitations, and logistical challenges unique to rural Alaska.

Figure 4. Typhoon Merbok Timeline of Events (2022)

Timeline of events		Response
September 2022		
September 13 The National Weather Service issues the first high wind and coastal flood.	→	**September 17** Governor Dunleavy declares a state disaster and notified the legislature of response costs up to $10,000,000 from the State Disaster Relief Fund.
September 15 Buoy station 46035 records Typhoon Merbok wind gusts at 76 mph with 52-foot seas.	→	**September 20** Governor Dunleavy requests a major disaster declaration.
September 17 Merbok produces 92 mph wind gusts, 52-foot seas, and 10-foot storm surges along the Norton Sound. Nome records a record 8.99 feet above Mean Highest High Water.	→	**September 23** President Biden signs a major disaster declaration.
September 20 The NWS cancels wind and flood warnings related to Merbok.		
May 2023		
		May 18 HUD allocates $38,493,000 to the State of Alaska for unmet needs and CDBG-DR activities for the Typhoon Merbok disaster that occurred in 2022.
July 2024		
		July 12 FEMA and the Alaska DHSEM approve nearly $109 million to rebuild damaged infrastructure and public buildings.

1.3. Summary

Unmet needs are calculated for each of three sectors defined by HUD (Housing, Economic Revitalization and Infrastructure), following the HUD guidance in Federal Register Notice Vol. 88, No. 96, published on May 18, 2023. HUD defines unmet needs as the needed resources necessary to recover from a disaster after accounting for all obligated and dispersed funding for recovery efforts, including FEMA Individual and/or Public Assistance funds, insurance claims, Small Business Administration Disaster Recovery Loans and/or other funding. The primary objectives of this plan are to provide housing for low- and moderate-income (LMI) families impacted by Typhoon Merbok in the MID areas, as well as flood and erosion control.

1.4. Unmet Need and Proposed Allocation

The proposed allocation of funds aligns with identified needs of communities within the most impacted and distressed areas and prioritizes areas with significant housing vulnerability. The allocation reflects a data-driven approach with the best available data. Although many Housing, Infrastructure, Mitigation and Planning disaster recovery actions were documented in Interagency Recovery Coordination (IRC) data, the October 2023 Recovery Strategy (Federal/State) DR-4672-AK, October 2023 Recovery Needs Assessment (Federal/State), and/or other sources for the MID areas, this Action Recovery Plan focuses on mitigating unmet housing need in the MID areas. The CDBG-DR Mitigation set-aside focuses on flood and erosion control measures in MID areas, as these were the most frequently documented hazard mitigation action. Adjustments may be made in future based on feedback from citizen engagement in 2025-2026 and incorporated into a Substantial Amendment to this Action Recovery Plan.

Table 1. Unmet Need and Proposed Allocation, Typhoon Merbok 2022 CDBG-DR (June 2025)

Category	Remaining Unmet Need	% of Unmet Need	% of Funding to be Expended in HUD & State Identified MID	Program Allocation Amount	% of Program Allocation
Administration	n/a	n/a		$1,924,650	5%
Planning	n/a	n/a		$5,773,950	15%
Housing	$3,125,565	4.5%		$25,773,400	65.0%
Infrastructure	$46,056,806	66.6%		$0	0.0%
Economic Revitalization	$7,500	0.0%		$0	0.0%
Mitigation	$20,000,000	28.9%		$5,021,000	15%
Total	**$1,941,800,000**	**100.00%**		**$38,493,000**	**100.00%**

Note: Allocation Amount for Housing, Infrastructure, Economic Revitalization, Public Services and Mitigation includes project delivery costs and does not include administration and planning costs.

2. Unmet Needs Assessment

2.1. Typhoon Merbok Overview

The U.S. Department of Housing and Urban Development (HUD) announced that the State of Alaska will receive $38,493,000 ($33,472,000 for unmet needs and $5,021,000 for mitigation set-aside) in funding to support long-term recovery efforts following FEMA Disaster #4672, subsequent to the 2022 Alaska Severe Storm, Flooding, and Landslides (2022 Typhoon Merbok), through the Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs (DCRA), Grants and Funding Section. Community Development Block Grant- Disaster Recovery (CDBG-DR) funding is designed to address needs that remain after all other assistance has been exhausted. This plan details how funds will be allocated to address remaining unmet needs in the Bering Strait, Kashunamiut, Lower Yukon, Lower Kuskokwim, Yupiit and Pribilof Islands Regional Education Attendance Areas (REAAs).

To meet disaster recovery needs, the statutes making CDBG-DR funds available have imposed additional requirements and authorized HUD to modify the rules that apply to the annual CDBG program to enhance flexibility and allow for quicker recovery. HUD has allocated $38,493,000 in CDBG-DR funds to the State of Alaska in response to FEMA Disaster #4672 2022 Typhoon Merbok through the publication of the Federal Register, Vol. 88, No. 96, Thursday, May 18, 2023 (FR 32046) https://www.commerce.alaska.gov/web/Portals/4/pub/CDBG-Merbok/FR-6393-N-01-AAN.pdf. This allocation was made available through the Continuing Appropriations Act, 2023 (Pub. L. 117-180), Division A) approved September 30, 2022.

The following information was extracted and summarized from Governor Mike Dunleavy's "Request for Major Disaster Declaration, September 20, 2022," State of Alaska Letter, available at https://www.commerce.alaska.gov/web/Portals/4/pub/CDBG-Merbok/Federal%20Request%202022%20West%20Coast%20Storm.pdf?ver=jeJXdXRlhO-2SPskOJGOzQ%3d%3d.

> *"Under the provisions of Section 401 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§5121-5208 (Stafford Act), and implemented by 44 CFR § 206.36, I request that you declare a major disaster for the State of Alaska. This request is a result of threats to life and severe losses to property from a powerful coastal storm beginning September 15 and continuing through September 20, 2022. This event produced hurricane-force winds, higher than normal tidal ranges, and storm surges of up to 10 feet above mean sea level. The event caused wing damage and riverine and coastal flooding to approximately 40 cities and villages along an approximately 1,300-mile-long section of the Western and Northwestern Alaska coastline. As a result of the widespread nature of this event, I specifically request that your declaration include the following Regional Educational Attendance Areas (REAAs) in Alaska: Bering Strait REAA, Lower Yukon REAA, Lower Kuskokwim REAA, and Kashunamiut REAA."*

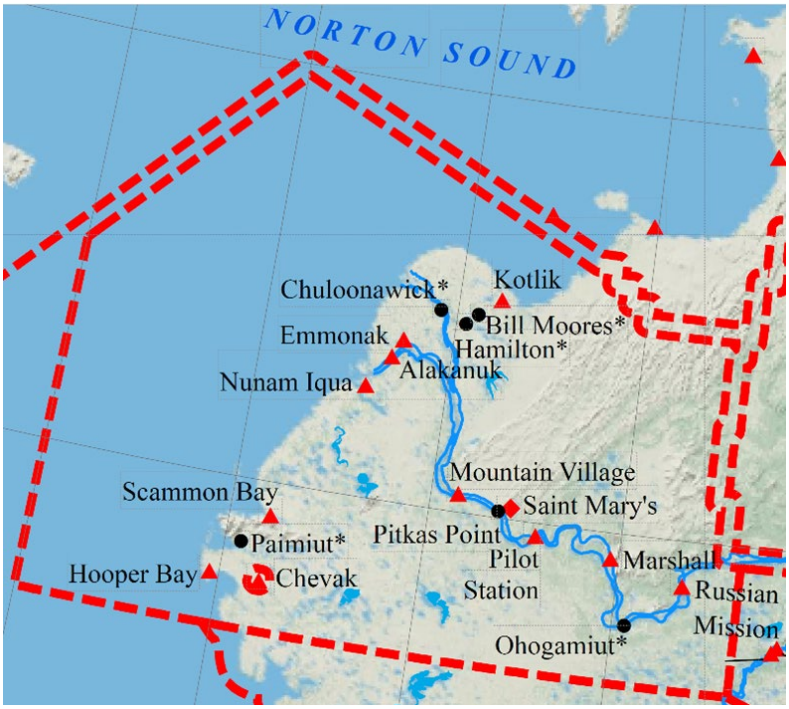
Note: The Yupiit REAA includes Akiachak, Akiak and Tuluksak; Akiachak and Tuluksak were included in the original description of the Lower Kuskokwim REAA. This plan therefore also includes the Yupiit REAA communities.

FEMA Disaster #4730

FEMA DR-4730 and subsequent funding are relevant to this report for the purposes of ensuring that funding is appropriately allocated without duplication of benefits for communities impacted by both 2022 Typhoon Merbok and 2023 Lower Yukon flooding. HUD announced that the State of Alaska will receive a total of $10,392,969 in funding to support long-term recovery efforts in eight villages in the Lower Yukon REAA following FEMA DR-4730, subsequent to the 2023 Lower Yukon REAA Flooding (CDBG-DR 2023 Lower Yukon Flooding), through DCRA. The eight communities are listed below. All were previously impacted by Typhoon Merbok in 2022.

1. Alakanuk
2. Emmonak
3. Kotlik
4. Marshall
5. Mountain Village
6. Nunam Iqua
7. Pilot Station
8. Russian Mission

Figure 5. FEMA Disaster #4730 2023 Lower Yukon REAA



Credit: State of Alaska Department of Commerce, Community, and Economic Development

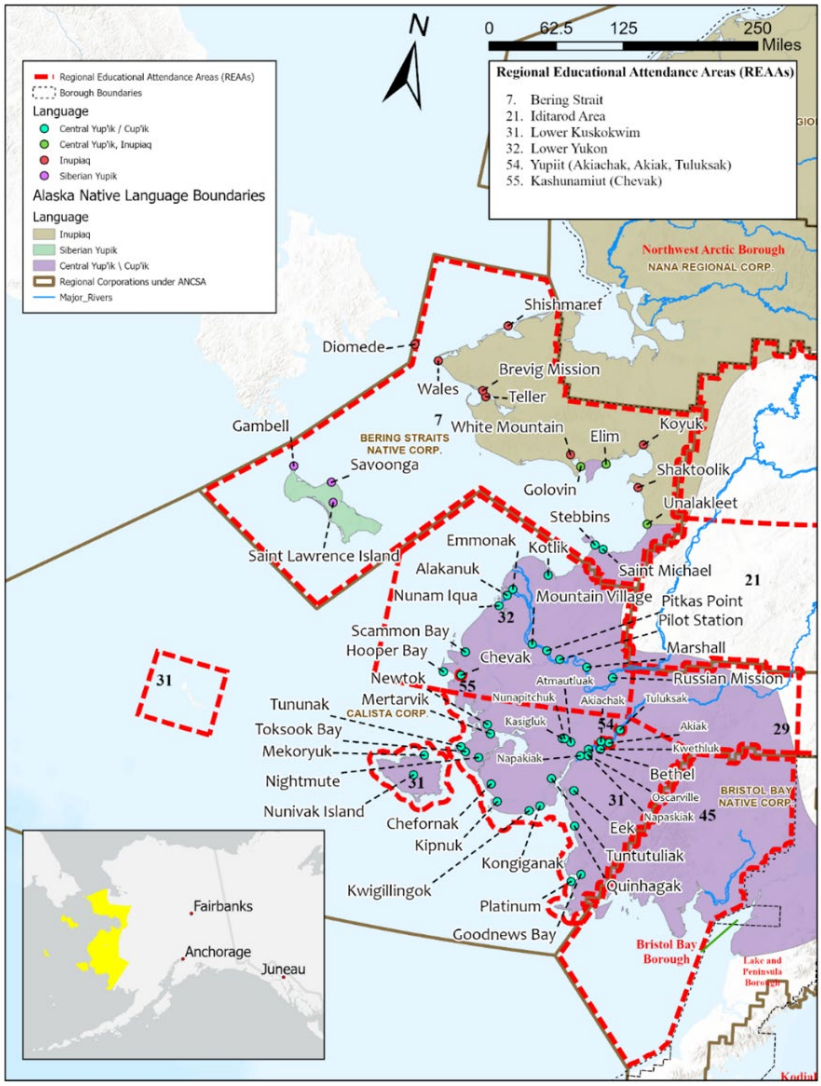
On January 16, 2025, HUD allocated $10,392,969 in CDBG-DR funds to the State of Alaska in response to FEMA DR-4730 through the publication of the Federal Register, Vol. 90, No. 10, January 16, 2025 (FR 4759). This allocation was made available through Public Law 118-158.

Impacted Areas

The 2022 September West Coast Storm disaster affected coastal communities in the Bering Strait REAA, Lower Yukon REAA, Lower Kuskokwim REAA, Yupiit REAA, the Kashunamiut REAA, and the Pribilof Islands REAA.

- The Bering Strait REAA includes the western and southern portions of the Seward Peninsula, coastal communities along the eastern Norton Sound, and St. Lawrence and Diomede Islands.
- The Lower Yukon REAA includes the Yukon Delta from Hooper Bay to Kotlik, and the Lower Yukon River up to Russian Mission.
- The Lower Kuskokwim and Yupiit REAAs include the Kuskokwim Delta coastline from Newtok to Platinum, and the Lower Kuskokwim River up to Tuluksak.
- The Kashunamiut REAA includes the community of Chevak only.
- The Pribilof Islands REAA includes Saint Paul and Saint George.

Figure 6. Merbok Impact Area and MID Communities



Source: Alaska Department of Commerce and Economic Development

Table 2. Bering Strait REAA

Village Name	DR-4672 HUD or State MID	DR-4730 2023 Flood MID	Source of Designation
Brevig Mission	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Diomede	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Elim	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Gambell	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Golovin	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Koyuk	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Nome	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Savoonga	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Shaktoolik	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Shishmaref	HUD Identified MID	No	Federal Register Vol. 88, No. 96
St. Michael	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Stebbins	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Teller	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Unalakleet	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Wales	HUD Identified MID	No	Federal Register Vol. 88, No. 96
White Mountain	HUD Identified MID	No	Federal Register Vol. 88, No. 96

Federal Register Vol. 88, No. 96 available at: https://www.commerce.alaska.gov/web/Portals/4/pub/CDBG-Merbok/FR-6393-N-01-AAN.pdf. Accessed August 25, 2025.

Table 3. Lower Yukon REAA

Village Name	DR-4672 HUD or State MID	DR-4730 2023 Flood MID	Source of Designation
Alakanuk	HUD identified MID	Yes	Federal Register Vol. 88, No. 96
Emmonak	HUD identified MID	Yes	Federal Register Vol. 88, No. 96
Kotlik	HUD identified MID	Yes	Federal Register Vol. 88, No. 96
Marshall	HUD identified MID	Yes	Federal Register Vol. 88, No. 96
Mountain Village	HUD identified MID	Yes	Federal Register Vol. 88, No. 96
Numan Iqua	HUD Identified MID	Yes	Federal Register Vol. 88, No. 96
Pilot Station	HUD Identified MID	Yes	Federal Register Vol. 88, No. 96
Russian Mission	HUD Identified MID	Yes	Federal Register Vol. 88, No. 96
Scammon Bay	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Hooper Bay	HUD Identified MID	No	Federal Register Vol. 88, No. 96
Pitka's Point	Not Identified as MID	No	

Table 4. Kashunamiut REAA

Village Name	DR-4672 HUD or State MID	DR-4730 2023 Flood MID	Source of Designation
Chevak	HUD Identified MID	No	Federal Register Vol. 88, No. 96

Table 5. Lower Kuskokwim REAA

Village Name	DR-4672 HUD or State MID	DR-4730 2023 Flood MID	Source of Designation
Tununak	State Identified MID	No	4672-DR-AK Initial Notice
Toksook Bay	State Identified MID	No	4672-DR-AK Initial Notice
Mekoryuk	State Identified MID	No	4672-DR-AK Initial Notice
Nightmute	State Identified MID	No	4672-DR-AK Initial Notice
Bethel	State Identified MID	No	4672-DR-AK Initial Notice
Chefornak	State Identified MID	No	4672-DR-AK Initial Notice
Eek	State Identified MID	No	4672-DR-AK Initial Notice
Goodnews Bay	State Identified MID	No	4672-DR-AK Initial Notice
Kasigluk	State Identified MID	No	4672-DR-AK Initial Notice
Kipnuk	State Identified MID	No	4672-DR-AK Initial Notice
Kongiganak	State Identified MID	No	4672-DR-AK Initial Notice
Kwethluk	State Identified MID	No	4672-DR-AK Initial Notice
Kwigillingok	State Identified MID	No	4672-DR-AK Initial Notice
Napakiak	State Identified MID	No	4672-DR-AK Initial Notice
Napaskiak	State Identified MID	No	4672-DR-AK Initial Notice
Nunapitchuk	State Identified MID	No	4672-DR-AK Initial Notice
Oscarville	State Identified MID	No	4672-DR-AK Initial Notice
Platinum	State Identified MID	No	4672-DR-AK Initial Notice
Quinhagak	State Identified MID	No	4672-DR-AK Initial Notice
Tuntutuliak	State Identified MID	No	4672-DR-AK Initial Notice
Atmautluak	State Identified MID	No	SOA Designation
Newtok/Mertarvik	Not Identified as MID	No	

4672-DR-AK Initial Notice available at: https://www.fema.gov/disaster-federal-register-notice/4672-dr-ak-initial-notice. Accessed August 25,2025.

Table 6. Yupiit REAA

Village Name	DR-4672 HUD or State MID	DR-4730 2023 Flood MID	Source of Designation
Akiachak	State Identified MID	No	SOA Designation
Akiak	State Identified MID	No	SOA Designation
Tuluksak	State Identified MID	No	4672-DR-AK Initial Notice

4672-DR-AK Initial Notice available at: https://www.fema.gov/disaster-federal-register-notice/4672-dr-ak-initial-notice. Accessed August 25, 2025.

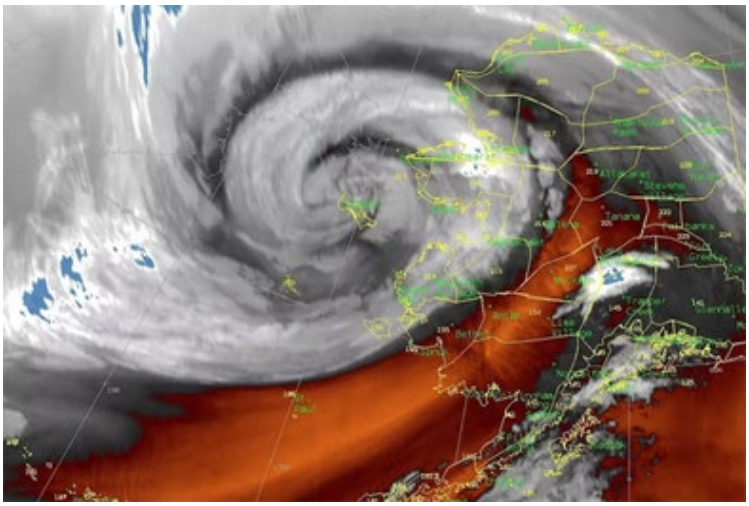
Table 7. Pribilof Islands REAA

Village Name	DR-4672 HUD or State MID	DR-4730 2023 Flood MID	Source of Designation
Saint George	State Identified MID	No	SOA Designation
Saint Paul	State Identified MID	No	SOA Designation

Background

From September 15 – 20, 2022 Typhoon Merbok devastated 1,300 miles of Alaskan coastline, impacting 52 communities in the Bering Straits, Yukon River Drainage, and Kuskokwim River Drainage watersheds. The storm started as a typhoon in atypically warm waters of the north-central Pacific Ocean. It arrived in Alaska early in the autumn storm season when there was no sea ice to protect coastal communities. The fast movement and direct trajectory of the storm contributed to extreme coastal and riverine flooding and erosion with resulting infrastructure damage and debris across western Alaska (see figure below).

Figure 7. Typhoon Merbok spins off the Alaska coast



Credit: National Weather Service

On September 15, 2022, Typhoon Merbok approached the Bering Sea, where buoy station 46035 (310 nautical miles north of Adak) recorded wind gusts of 76 mph and seas of 52 feet (NOAA National Data Buoy Center). The storm's minimum central pressure was recorded at 937 mb, which is the lowest pressure recorded in the Bering Sea for the month of September since 1950 (NOAA Storm Events Database). The storm first impacted the Western and Central Aleutians and Pribilof Islands with damaging winds over 70 mph in some communities. It then moved into the Yukon-Kuskokwim Delta where winds gusted over 60 mph and storm surge caused significant coastal flooding. Storm surge pushed further inland along the Yukon Delta, inundating several communities along the Yukon River. As the storm reached Norton Sound and the southern Seward Peninsula, it triggered severe erosion and the worst flooding in nearly 50 years. Strong south to southwest winds resulted in significant storm surge that caused water levels to rise 8 to 13 feet above the normal high tide line, with the highest water levels observed at Golovin with reports of flood depths over 17 feet. Impacts lessened as the weakening storm moved into the Chukchi Sea, causing flooding and erosion in communities further north along the coast (NOAA Storm Events Database).

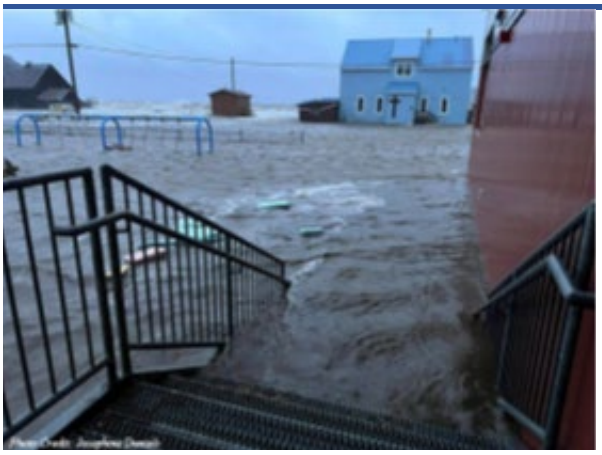
Figure 8. Inundation after Typhoon Merbok in Golovin

Credit: Ian Gray / U.S. Coast Guard

Figure 9. Selected images from Golovin

Golovin, photo of lower village on 9/16/2022 (before) (2023 Golovin MJHMP Update)

Golovin, photo of lower village on 9/17/2022 (during) (2023 Golovin MJHMP Update)



Golovin, 9/17/2022 (2023 Golovin MJHMP Update)

Golovin, 9/17/2022 (2023 Golovin MJHMP Update)

Golovin, 9/17/2022 Sand inside homes (2023 Golovin MJHMP Update)

Golovin, 9/17/2022 Sand inside homes (2023 Golovin MJHMP Update)

Impacts

High winds and storm surge from Typhoon Merbok caused significant damage across the region. Members of impacted communities lost homes, critical community infrastructure, equipment and vehicles, substantial food stocks, and subsistence hunting, fishing and gathering equipment (boats, fish racks, etc.), and camps that had been passed down through generations. The impacts from the storm and aftermath are still obvious and felt by community members more than two years later.

Some communities saw coastal protection and flood risk management measures, such as seawalls, erosion berms, breakwaters, and other structures damaged or destroyed. Shaktoolik's protective berm, which protects the village from the sea, was destroyed during the storm. In Newtok, a total of 100 feet of bank was lost due to coastal erosion. In Teller, much of the remaining seawall was damaged by storm surge. Many communities saw an exacerbation of existing erosion, prompting a need for new flood mitigation measures. These structures are critical to providing ongoing protection from future coastal storms and therefore critical to life safety.

Figure 10. Shaktoolik's berm destroyed in the storm

Credit: Gloria Andrew

Public facilities, transportation infrastructure, and utility infrastructure sustained damage due to erosion and high water. Roads, bridges, airstrips, and barge landings were inundated or washed away. Scammon Bay's airstrip was flooded, causing transportation challenges (FMA-RNA 2023). In Chevak, severe erosion damaged the barge landing and access ramp, inhibiting the community's ability to offload supplies (FEMA-RNA 2023). In Nome, approximately 30 miles of Nome Council Road became impassable, including a significant ocean breach of the roadway (Alaska DOT&PF 2022). Energy infrastructure sustained damage during the storm, causing widespread power outages. In Golovin, power infrastructure was damaged for an extended period and food stored in freezers was spoiled. Hooper Bay

sustained damage to its power grid after recording water nine feet above the highest high tide line and wind gusts of 67 mph (UAF-ACCAP 2022). Given the prevalence of electricity-dependent home heating stoves in western Alaska, power outages are especially damaging because homes cannot be heated, and plumbing may freeze. In summary, the following transportation and utility infrastructure sustained severe impacts:

- **Public roads and bridges,** including critical access routes to airstrips, sheltering points, and other important areas due to flooding and/or debris deposition. Damages affected critical access routes, impacts to local commerce, and had an adverse effect on critical life safety support functions.
- **Airstrips,** including runways, parking aprons, access roads, helipads, and airport support structures. Due to the remote nature of Alaska, runways are the primary transportation access points and therefore are critical to life safety functions.
- **Power supply,** including generators, power plants, land and undersea transmission lines, and bulk fuel tanks to supply this infrastructure. Damage to power systems critically impacted the community's ability to provide heat to public buildings and private homes. In the arctic, heat is a critical life safety function.
- **Public facilities,** including water and wastewater treatment facilities and bulk fuel tanks. Damages affected the ability to provide safe water and critical heat to residents in the affected area.

Figure 11. Oceanic breach of highway in Nome

Credit: Shea Oliver / Alaska DOT&PF

Damages to wastewater infrastructure and subsequent contaminant releases were widespread in Merbok's aftermath. Flooding caused Nightmute's landfill and sewage lagoon to be breached, depositing trash and contaminants into the surrounding wetlands and river (FEMA-RNA 2023). Solid waste disposals systems were compromised or overwhelmed in many communities. In Koyuk, storm debris remained on the beach for over a year after the event. In St. Michael, storm surge exposed old

dump sites along the water's edge, causing waste to fall into the water (FMA-RNA 2023). Damages in Elim included losing two sections of road (3-4 miles) of Moses Pt and a state road and seawater infiltrated the community's drinking water well (Kawerak 2023).

Figure 12. Storm Debris in Golovin on September 20, 2022

Credit: Jeremy Edwards / FEMA

Personal property, including homes and boats needed for subsistence activities, suffered severe damage due to the storm. Fish camps, fish drying racks, cabins, and other subsistence equipment are critical for sustaining livelihoods and cultural traditions throughout rural Alaska. In Golovin, eight to ten generational subsistence cabins were damaged or destroyed by Merbok (FEMA-RNA 2023). In Chevak, 90% of fishing boats were lost (UAF-ACCAP 2022). Elim reported losing areas used for subsistence berry gathering. As of September 20, 2022 the State PDA identified 69 homes with wind or flooding damage. 28 other structures, including schools, cabins, warehouses, and outbuildings were also damaged.

Damage to personal and community infrastructure occurred in largely Alaska Native, remote, and isolated regions. The communities affected by this storm have a high percentage of families at or below the federal poverty level, and many are subsistence-based. For example, the communities within the Bering Strait REAA reflect the economic situation along the entire Western Coast of Alaska. For small communities within this area (i.e., populations less than 700 residents), poverty levels range from 14.7 to 52.1 percent and unemployment rates range from 13.8 to 38.7 percent. Private property insurance is largely unavailable or cost prohibitive; therefore, almost all residents with reported home damage were likely uninsured against storm loss.

Figure 13. Fish Camp in Nome Sustains Damages

Credit: Jeremy Edwards / FEMA

The storm caused damage to cemeteries, churches, and artifacts. While some repairs have been made, there is a need to identify alternative cemetery locations, fix damages to crosses, reinter remains, repair churches, and address erosion threats to existing locations.

The damage caused by Typhoon Merbok resulted in substantial, compounding impacts for Tribal and local communities. Communities were isolated as roads and airstrips became impassable due to washouts, debris, and high water. There were significant disruptions to essential community services, utilities, and infrastructure across the Bering Straits, Yukon River Drainage, and Kuskokwim River Drainage watersheds. Nome, Golovin, Koyuk, and Unalakleet were among the communities hardest hit by the storm. They suffered road washouts, homes pushed off their foundations, sand and sewage being deposited along roads and into peoples' homes, broken windows and doors, damaged bridges, telecommunications and power outages, and displaced residents. Residents in White Mountain, for example, lost personal property as it was washed down the Niukluk River, and $25,000 in frozen food was lost when power outages caused freezers to fail. In the village of Elim, flood waters disrupted water treatment and sewage systems, enabling *e. coli* to contaminate drinking water and causing an intake of salt water into water lines. The Native Village of Golovin was among the hardest hit, losing the entirety of its winter food supply and multiple residences due to hurricane-force winds and severe flooding (State HMP 2023). Recovery operations raced against the rapidly approaching winter season in western Alaska.

Long-term impacts from Typhoon Merbok include significant infrastructure and community challenges, such as the need to relocate or elevate homes vulnerable to erosion and flooding. Drinking water, wastewater and energy systems need to be repaired and upgraded. Public infrastructure such as roads, harbors/barge landing areas, airstrips, and flood mitigation measures require reinforcement to future severe weather events. Families and communities are still recovering from losses to subsistence areas

and equipment. Culturally significant places such as cemeteries are threatened by erosion and require careful relocation or other protective measures.

Federal, State, and Local Actions

The State Emergency Operations Center (SEOC) and the State Emergency Operations Plan were activated to Preparedness Level 2 - Heightened Awareness on September 14, 2022, in response to the approaching storm. This level was increased to Preparedness Level 3 - Actual Event on September 17, 2022.

The Alaska Division of Homeland Security and Emergency Management (DHS&EM) coordinated the State's response to local requests, with resources from the Department of Health and Social Services (DHSS); Department of Public Safety (DPS); Alaska Department of Environmental Conservation (ADEC); Department of Commerce, Community, and Economic Development (DCCED); and the Department of Natural Resources (DNR); Department of Transportation and Public Facilities (DOT&PF); the Alaska National Guard; local agency support (Kawerak), and multiple voluntary agencies.

On September 17, 2022, Governor Dunleavy declared a State Disaster and notified the Alaska State Legislature of funding for immediate response costs up to $10,000,000 from the State Disaster Relief Fund per Alaska Statute 26.23.020.

The SEOC was activated and staffed to Preparedness Level 3 over the weekend of September 16-18, 2022. This measure allowed state, federal, military, and non-profit response and relief agencies to coordinate their responses. Throughout the event, the SEOC maintained expanded staffing and monitored the weather and the storms' impact to over 50 coastal communities.

The State partnered quickly with the Federal Emergency Management Agency (FEMA) to streamline collaboration and cooperation during the event. Serendipitously, FEMA Region 10 and National Incident Management Assistance Team (IMAT) personnel were in Anchorage on September 14 to participate in a state preparedness exercise; they were able to transition quickly to assist the State with incident management and federal agency coordination.

Emergency evacuations of at-risk persons were performed throughout the storms. It is estimated that approximately 500 residents were sheltered in community facilities, and an unknown number sheltered-in-place in impacted communities.

On September 20, 2022, Governor Dunleavy requested a major disaster declaration due to a severe storm, flooding, and landslides. On September 23, 2022, President Biden issued a major disaster declaration under the authority of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. 5121 et seq. (the “Stafford Act”). It authorized the provision of emergency protective measures (Category B) under the Public Assistance program in the designated areas of Bering Strait Regional Educational Attendance Area (REAA), Kashunamiut REAA, Lower Kuskokwim REAA, and Lower Yukon REAA. It made Individual Assistance available to affected individuals and households in these regions. It authorized Hazard Mitigation Grant Program assistance throughout the State of Alaska (FEMA-RNA 2023).

On September 23, 2022, Amendment #01 was issued to extend the deadline for filing applications for physical damages as a result of this disaster to 12/06/2022. On November 21, 2022, Amendment #02

was issued announcing the addition of debris removal (Category A) and permanent work (Categories C-G) for Bering Strait REAA, Kashunamiut REAA, Lower Kuskokwim REAA, and Lower Yukon REAA and Public Assistance (Categories A-G) for Pribilof Islands REAA. The deadline for Public Assistance RPAs was extended until December 23, 2022 (FEMA-RNA 2023).

Public funds have been allocated and deployed in the region to support recovery and rebuilding efforts, but gaps remain. As recently as July 2024, FEMA and the Alaska Department of Homeland Security and Emergency Management approved nearly $109 million to help rebuild infrastructure and public buildings damaged in the storm and to reimburse costs communities sustained deploying life-saving emergency measures during and after the storm. Funds have helped and will continue to help repair roadways, culverts, berms, and other similar projects (FEMA Press Release 2024).

The reality of cascading severe weather events and vulnerabilities exacerbated by changing climate have brought a new perspective on risk, preparedness, and the need for Alaska to achieve a heightened level of resilience to be able to lead and manage holistic recovery.

The State's most recent Hazard Mitigation Plan in 2023 (State HMP) includes observations of milder winters, increased intensity of winter storms, and rapid decline in Bering Sea ice cover in western Alaska. The State HMP states that the northern and western coasts of Alaska are particularly vulnerable to the combination of flooding and erosion. It is difficult to predict the frequency of future flood hazard events, as monitoring networks are sparse, and it is likely that many historic events have gone unreported across the vast coastline. According to the State HMP, it is anticipated that locations already vulnerable to flooding will flood with similar or more frequency in the future. Additionally, sea ice that annually forms offshore of Alaska's western and northern coasts is expected to form later and break up earlier in the year, reducing protection from fall winter storms and associated impacts from strong seas.

Western Alaska is vulnerable to other natural disasters, described in the Mitigation Needs Assessment (MNA) section of this CDBG-DR Public Action Plan (PAP). In developing the MNA, FEMA, local and tribal governments, *USGS, DGGS, NWS, and UAF* were consulted to understand the current and projected natural hazards and risks faced by the state and the most impacted and distressed areas. These risks and hazards will be factored into recovery and mitigation programming.

2.2. Housing Unmet Need

This section provides an assessment of the region's housing profile, damage to housing caused by the September 2022 Typhoon Merbok disaster, and the remaining unmet needs related to housing recovery. CDBG-DR funds will support efforts to restore, protect, and strengthen housing in impacted communities. Outlined are local housing recovery priorities, addressing both urgent and long-term needs to reduce future displacement risks and ensure long-term housing stability for residents.

2.2.1. Pre-disaster Unmet Need

The Table below shows the pre-existing immediate unmet housing need in the affected communities due to overcrowding and units in need of rehabilitation or replacement due to age of housing stock and/or lack of plumbing and kitchen facilities (see Methodology section).

Table 8. Estimated Pre-Disaster Unmet Housing Need (2023)

MID (Most Impacted and Distressed) Areas	New Units Needed Due to Overcrowding	Rehab Units Needed	Cost of Total Immediate Unmet Housing Need Pre-Disaster
HUD-identified			
Bering Strait REAA	873	279	$579,600,000
Kashunamiut REAA	41	10	$26,600,000
Lower Yukon REAA	580	149	$377,800,000
State-identified			
Lower Kuskokwim REAA	1333	446	$889,000,000
Yupiit REAA	100	21	$64,200,000
Pribilof Islands REAA	5	8	$4,600,000
Total	**2,932**	**913**	**$1,941,800,000**

Data Sources: AVCP RHA Housing Needs Forecast (2025) for Kashunamiut, Lower Yukon, Lower Kuskokwim and Yupiit REAAs. The same methodology used in the AVCP RHA Housing Needs Assessment was applied to the Bering Strait and Pribilof Islands REAAs. Both assessments use 2023 American Community Survey 5-year estimates.

2.2.2. Disaster Damage and Impacts

Typhoon Merbok exacerbated extreme housing challenges in most of the impacted communities. The MID areas include communities with some of the highest overcrowding in the nation: 43 percent of households are overcrowded or severely overcrowded in the Yukon-Kuskokwim region (includes the Kashunamiut REAA, Lower Yukon REAA, Lower Kuskokwim REAA and Yupiit REAA), according to the United States Census Bureau (2023 American Community Survey 5-Yr Estimates). In the Bering Strait REAA, an average of 37.7 percent of households are overcrowded or severely overcrowded, ranging from 17.2 percent in Nome to 61.5 percent in St. Michael (2023 American Community Survey 5-Yr Estimates).

Remaining Unmet Need for Housing

The total remaining estimated unmet need for housing in the MID areas is shown in the table below. The pre-disaster immediate unmet housing need (section 2.2.1) is added to the estimate of unmet housing need from disaster impacts to arrive at the total remaining estimated unmet housing need. Unmet need from disaster impacts is calculated using the Total Verified Loss from FEMA or the State of Alaska Department of Homeland Security and Emergency Management (DHS&EM) for Individual Assistance (IA) programs, less recovery assistance awarded from key state, federal and private funding sources to avoid duplication of benefits (DOB). Estimates of disaster impact are low vis-à-vis the population of MID areas partly because people did not apply for federal and state programs, and partly because not all relevant data are available at the time of writing (see details in the following subsection).

Table 9. Estimated Remaining Unmet Housing Need

MID (Most Impacted and Distressed) Areas	Estimated Unmet Housing Need Pre-Disaster	Estimated Unmet Housing Need from Disaster Impacts	Total Remaining Estimated Unmet Housing Need
HUD-identified			
Bering Strait REAA	$579,600,000	$1,981,639	$581,581,639
Kashunamiut REAA	$26,600,000	$97,649	$26,697,649
Lower Yukon REAA	$377,800,000	$550,567	$378,350,567
State-identified			
Lower Kuskokwim REAA	$889,000,000	$495,710	$889,495,710
Yupiit REAA	$64,200,000	$0	$64,200,000
Pribilof Islands REAA	$4,600,000	$0	$4,600,000
Total	**$1,941,800,000**	**$3,125,565**	**$1,944,925,565**

Data Sources: AVCP RHA Housing Needs Forecast (2025), 2023 American Community Survey 5-year estimates, Total Verified Loss and Payment records for FEMA IA, Alaska DHS&EM IA, SBA Home Disaster Recovery Loans, NFIP, private insurance.

Methodology and Limitations of Data

Following a state and federally declared disaster, joint Preliminary Damage Assessments (JPDA) are conducted to establish the need for federal assistance from the Federal Emergency Management Agency (FEMA) and the State of Alaska Department of Homeland Security and Emergency Management (DHS&EM) Individual Assistance (IA) Programs. Insured homeowners may apply to their insurance company for damages. Homeowners may also be referred by FEMA to the Small Business Administration (SBA) for Home Disaster Recovery Loans. Other sources of recovery funding include the National Flood Insurance Program (NFIP), although only a few of the communities impacted by Typhoon Merbok participate in the NFIP. It is crucial to highlight that although severe damage was documented in the October 2023 Recovery Needs Assessment (FEMA, State of Alaska DHS&EM)[1] to homes and properties throughout the impacted REAAs, "not all impacted residents applied, and gaps remain." Because many

[1] FEMA, State of Alaska DHS&EM (2023). Recovery Needs Assessment: DR-4672-AK. Available at: https://www.commerce.alaska.gov/web/Portals/4/pub/CDBG-Merbok/DR-4672-AK%20Recovery%20Needs%20Assessment%20Second%20Edition%20FINAL%20DRAFT.pdf. Accessed July 29, 2025.

residents in the affected area did not apply for these assistance programs, more information about unmet recovery needs will be identified through planned outreach to MID communities in 2025-2026.

FEMA Individual Assistance (IA) Program

FEMA Individual Assistance data provides a snapshot of housing damage and recovery across the HUD- and State-identified Most Impacted and Distressed (MID) areas following Typhoon Merbok. Across four REAAs—Bering Strait, Kashunamiut, Lower Yukon, and Lower Kuskokwim—nearly $8 million was recommended for housing-related repairs and personal property losses. Of that, approximately $6.4 million was disbursed to households through FEMA awards. The resulting unmet need of nearly $2 million reflects the gap between verified losses and what was awarded, adjusted to exclude overpayment anomalies and offset by known SBA disbursements. Notably, this estimate is likely conservative. FEMA's dataset did not include household-level damage assessments for communities in the Pribilof Islands REAA. As a result, no unmet need could be calculated for that area using FEMA Individual Assistance data alone. The totals shown here reflect verified losses and awards as reported, grouped by Regional Educational Attendance Area (REAA) for consistency with other sections of this plan.

Table 10. FEMA Individual Assistance Unmet Need for Typhoon Merbok (2022)

MID (Most Impacted and Distressed) Areas	Total Recommended	Total Paid	Total Remaining Unmet Need
HUD-identified			
Bering Strait REAA	$3,341,057	$2,381,788	$1,043,714
Kashunamiut REAA	$864,987	$814,225	$83,935
Lower Yukon REAA	$2,562,138	$2,142,656	$550,567
State-identified			
Lower Kuskokwim REAA	$1,189,956	$1,023,921	$296,735
Yupiit REAA	$11,300	$11,300	$0
Pribilof Islands REAA	$0	$0	$0
Total			**$1,974,951**

Data Source(s): FEMA Individual Assistance for 2022 Typhoon Merbok AK-DR-4672. Available: https://data.sba.gov/dataset/office-of-capital-access. Accessed: July 24, 2025. Note that the communities of Akiachak and Tuluksak are within the Yupiit REAA but were recorded under Lower Kusko REAA in the FEMA Individual Assistance assessment for the 2022 Typhoon Merbok.

State of Alaska Department of Homeland Security and Emergency Management (DHS&EM) Individual Assistance (IA) Program

The State of Alaska Individual Assistance (IA) Program provides financial assistance to disaster survivors through grants to assist individuals and families in a declared disaster area with serious losses not covered or not fully covered by their insurance or other financial sources or means. The program provides financial assistance to individuals or families whose:

- Primary residence was destroyed or damaged
- Only means of transportation was destroyed or damaged, when alternative is not available

- Essential personal property was destroyed, damaged, or lost
- Medical/funeral/dental expenses were incurred as a direct result of the disaster

The DHS&EM IA Program is initiated when the Governor of Alaska declares a disaster. If a State disaster declaration is followed by a federal declaration for the same event, individuals may apply for assistance from both the State (DHS&EM) and Federal (FEMA) IA programs.

Table 11. State of Alaska Department of Homeland Security and Emergency Management (DHS&EM) Individual Assistance (IA) for 2022 September West Coast Storm

MID (Most Impacted and Distressed) Areas	Total Recommended	Total Paid	Total Remaining Unmet Need
HUD-identified			
Bering Strait REAA	$1,260,513	$485,202	$775,311
Kashunamiut REAA	$289,089	$107,669	$181,420
Lower Yukon REAA	$519,675	$272,445	$247,230
State-identified			
Lower Kuskokwim REAA	$320,255	$121,280	$198,975
Yupiit REAA	$0	$0	$0
Pribilof Islands REAA	$0	$0	$0
Total	**$2,389,532**	**$986,596**	**$1,402,936**

Data Source: State of Alaska Department of Homeland Security and Emergency Management (DHS&EM)

U.S. Small Business Administration Disaster Recovery Home Loans

Small Business Administration (SBA) for Home Disaster Recovery Loans can provide funds for repair or replacement of damaged homes (up to $200,000 for a primary residence) and personal property (up to $40,000) that is not covered by private insurance or the Individual Assistance programs. Borrowers may also borrow up to 20% of the verified real estate damage for improvements that help prevent future damage. The U.S. Small Business Administration received 31 Disaster Recovery Home Loan applications related to the event, resulting in 10 offers totaling $234,600; only three loans were disbursed, totaling $59,100—indicating limited uptake of SBA recovery resources among affected households. The table below shows the aggregated SBA data available at the time of writing, which indicates that some homeowners applied for SBA loans. However, it does not indicate the type of housing, REAA, or any identifiable detail that would allow the calculation of remaining unmet need for specific types of housing.

Table 12. Small Business Administration (SBA) Individual Assistance Disaster Home Recovery Loan Applications for Disaster Declaration AK-00055 Severe Storm, Flooding, and Landslides (2022)

Loan Type	Initial Application Count	Full Application Count	Offer Count	Offer Amount	Disbursement Count	Disbursement Amount
Disaster Home Recovery Loan	31	31	10	$234,600	3	$59,100

Source: Small Business Administration (SBA). Available: https://data.sba.gov/dataset/office-of-capital-access. Accessed: July 24, 2025.

Table 13. Small Business Administration (SBA) Individual Assistance Disaster Home Recovery Loans Unmet Need for Disaster Declaration AK-00055 Severe Storm, Flooding, and Landslides (2022)

MID (Most Impacted and Distressed) Areas	Offer Count	Total Verified Loss	Disbursement	Remaining Unmet Need
HUD-identified				
Bering Strait REAA	2	$201,780	$53,600	$148,180
Kashunamiut REAA	1	$19,214	$5,500	$13,714
Lower Yukon REAA	0	$0	$0	$0
State-identified				
Lower Kuskokwim REAA	0	$0	$0	$0
Yupiit REAA	0	$0	$0	$0
Pribilof Islands REAA	0	$0	$0	$0
Total	**3**	**$220,994**	**$59,100**	**$161,894**

Source: Small Business Administration (SBA).

National Flood Insurance Program (NFIP)

The National Flood Insurance Program (NFIP) plays a limited role in the region affected by Typhoon Merbok. Of the Most Impacted and Distressed (MID) communities identified in this plan, only Emmonak, Nome, Bethel, and Shishmaref participate in the NFIP. Even in these communities, household-level enrollment is likely low due to affordability challenges, low availability of coverage, and limited awareness of flood risk prior to the disaster.

At the time of this plan, no individual NFIP claims data were available for analysis. As such, it is not possible to assess the degree to which NFIP payouts may have reduced unmet housing need. However, consistent with observed regional patterns and State reporting, it is assumed that most affected households did not have flood insurance coverage. For this reason, NFIP benefits were not deducted from FEMA-based unmet need estimates, and any potential duplication of benefits will be addressed during program implementation, once claim-level data becomes available.

Private Insurance

Private property insurance plays a minimal role in disaster recovery for communities impacted by Typhoon Merbok. As noted in Governor Dunleavy's request for a federal disaster declaration, "private property insurance is largely unavailable or cost prohibitive; therefore, almost all residents with

reported home damage were likely uninsured against storm loss." This statement reflects the broader reality of Western Alaska's housing market, where high poverty rates, small community sizes, and limited access to insurance products make homeowner and rental insurance rare.

While the FEMA Individual Assistance dataset includes yes/no indicators for homeowners and other insurance coverage, it does not contain information on the value of claims filed, received, or denied. As a result, the extent to which private insurance may have offset repair costs cannot be reliably quantified. Given these data limitations, and the strong likelihood that most residents lacked meaningful insurance coverage, this plan does not deduct insurance payouts from calculated unmet housing needs. This conservative assumption aligns with federal guidance to avoid underestimating need in low-insurance environments and reflects the severe resource constraints facing most storm-affected households.

2.2.3. Single-family vs. Multi-family Needs; Owner-occupied vs. Tenant

Definitions

Affordable Rents: For all REAAs, affordable rent is defined as a monthly housing cost (including utilities) that does not exceed 30% of a household's gross monthly income. To maintain consistency with HUD requirements, this plan uses the HUD-published 80% Area Median Income (AMI) limit for a 4-person household as the benchmark for affordability.

HUD-identified MID (Most impacted and distressed) areas

Bering Strait REAA (Nome Census Area)

(1) **Affordable Rents:** $1,800 per month
(2) **Income Limits for Tenants of rental housing that is rehabilitated, reconstructed, or constructed with CDBG-DR funds:** Less than 80% of the Area Median Income, or **$75,200 per yea**r for this REAA.
(3) **Minimum Affordability Period:** Twenty (20) years.

Kashunamiut REAA (Kusilvak Census Area)

(1) **Affordable Rents:** $1,800 per month
(2) **Income Limits for Tenants of rental housing that is rehabilitated, reconstructed, or constructed with CDBG-DR funds:** Less than 80% of the Area Median Income, or **$75,200** for this REAA.
(3) **Minimum Affordability Period:** Twenty (20) years.

Lower Yukon REAA (Kusilvak Census Area)

(1) **Affordable Rents:** $1,800 per month
(2) **Income Limits for Tenants of rental housing that is rehabilitated, reconstructed, or constructed with CDBG-DR funds:** Less than 80% of the Area Median Income, or **$75,200** for this REAA.
(3) **Minimum Affordability Period:** Twenty (20) years.

State-identified MID (Most impacted and distressed) areas

Lower Kuskokwim REAA (Bethel Census Area)

(1) **Affordable Rents:** $2,096 per month
(2) **Income Limits for Tenants of rental housing that is rehabilitated, reconstructed, or constructed with CDBG-DR funds:** Less than 80% of the Area Median Income, or **$83,850** for this REAA.
(3) **Minimum Affordability Period:** Twenty (20) years.

Yupiit REAA (Bethel Census Area)

(1) **Affordable Rents:** $2,096 per month
(2) **Income Limits for Tenants of rental housing that is rehabilitated, reconstructed, or constructed with CDBG-DR funds:** Less than 80% of the Area Median Income, or **$83,850** for this REAA.
(3) **Minimum Affordability Period:** Twenty (20) years.

Pribilof Islands REAA (Aleutians West Census Area)

(1) **Affordable Rents:** $2,247 per month
(2) **Income Limits for Tenants of rental housing that is rehabilitated, reconstructed, or constructed with CDBG-DR funds:** Less than 80% of the Area Median Income, or **$89,900** for this REAA.
(3) **Minimum Affordability Period:** Twenty (20) years.

Table 14. Definitions for Single-family vs. Multi-family Needs; Owner-occupied vs. Tenant, by REAA

MID (Most Impacted and Distressed) Areas	Affordable Rents (Per Month)	CDBG-DR Funded Rental Housing - Tenant Income Limits*		Minimum Affordability Period
HUD-identified				
Bering Strait REAA	$1,800	< 80% AMI	< $75,200	20 years
Kashunamiut REAA	$1,800	< 80% AMI	< $75,200	20 years
Lower Yukon REAA	$1,800	< 80% AMI	< $75,200	20 years
State-identified				
Lower Kuskokwim REAA	$2,096	< 80% AMI	< $83,850	20 years
Yupiit REAA	$2,096	< 80% AMI	< $83,850	20 years
Pribilof Islands REAA	$2,247	< 80% AMI	< $89,900	20 years

Data Source(s): U.S. Department of Housing and Urban Development (HUD), FY 2023 Income Limits Documentation System for Nome, Kusilvak, Bethel, and Aleutians West Census Areas; HUD Exchange, CDBG Low/Mod Income Data (LMISD)

**Refers to" Income Limits for Tenants of rental housing that is rehabilitated, reconstructed, or constructed with CDBG-DR funds"*

Note: Yupiit REAA was included in the original description of the Lower Kuskokwim REAA.

2.2.4. Public Housing and Affordable Housing

The Alaska Housing Finance Corporation (AHFC) operates two public housing developments in the MID regions: Bering Vue in Nome and Bethel Heights in Bethel. Building inspection reports, estimates of any remaining repairs needed and estimated costs were requested from the AHFC, which responded that no public housing was damaged by Typhoon Merbok. More information about damages and unmet recovery needs will continue to be identified through planned outreach to MID communities and service providers in 2025-2026.

Public Housing Authorities Damaged

Table 15. Multifamily Assisted Housing, all HUD- and State-identified MID areas.

Type of Damage	# of Properties	# of Units	# of Units Assisted	# of Units Awaiting Assistance	Remaining Unmet Need
Minor-Low	0	0	0	0	$0
Minor-High	0	0	0	0	$0
Major-Low	0	0	0	0	$0
Major-High	0	0	0	0	$0
Severe	0	0	0	0	$0
Total	**2**	**0**	**0**	**0**	**$0**

Data Source: Alaska Housing Finance Corporation (AHFC)

Table 16. Public Housing Authorities Damaged, by REAA

County/ Municipalities	Total # of PHA's	Total PHA's Damaged	# Of Units Damaged	Remaining Unmet Need
Bering Strait REAA	1	0	0	$0
Kashunamiut REAA	0	0	0	$0
Lower Yukon REAA	0	0	0	$0
Lower Kuskokwim REAA	1	0	0	$0
Yupiit REAA	0	0	0	$0
Pribilof Islands REAA	0	0	0	$0
Total	**2**	**0**	**0**	**$0**

Data Source: Alaska Housing Finance Corporation (AHFC)

2.2.5. Fair Housing, Civil Rights Data, and Advancing Equity

The 2022 Typhoon Merbok impacted many of Alaska's most vulnerable and historically underserved communities, including rural and remote school districts identified as Most Impacted and Distressed (MIDs) by HUD and the State. These communities are predominantly Alaska Native, face disproportionately high poverty rates, and often have limited access to housing, infrastructure, and services. CDBG-DR investments in these areas must actively advance equitable recovery by addressing long-standing disparities, supporting culturally appropriate housing and infrastructure, and ensuring all protected classes—including individuals with limited English proficiency and persons with disabilities—are considered in the planning and implementation of recovery programs.

Race and Ethnicity

Race and ethnicity data for the HUD-identified and State-identified Most Impacted and Distressed (MID) areas were sourced from the U.S. Census Bureau's 2023 American Community Survey (ACS) 5-Year Estimates, Table DP05. All six REAAs included in the disaster recovery plan serve populations that are majority Alaska Native, with especially high concentrations in the Kusilvak and Bethel Census Areas. These regions face intersecting challenges related to rural isolation, subsistence-based economies, and systemic underinvestment in housing and infrastructure. Demographic context is critical to ensure CDBG-DR funding decisions support equitable recovery and address the needs of Alaska Native communities.

HUD-identified MID (Most Impacted and Distressed) Areas

Bering Strait REAA

Located in the Nome Census Area, this REAA serves a population that is approximately 76% Alaska Native or American Indian, primarily Inupiat.

Kashunamiut REAA

The Kashunamiut REAA, located in the Kusilvak Census Area, serves a population that is over 95% Alaska Native, predominantly Yup'ik.

Lower Yukon REAA

Also located in the Kusilvak Census Area, the Lower Yukon REAA shares a similar demographic profile with Kashunamiut, with over 90% of the population identifying as Alaska Native. State-identified MID (Most Impacted and Distressed) Areas.

Lower Kuskokwim REAA

Serving the Bethel Census Area, this REAA includes communities that are over 80% Alaska Native.

Yupiit REAA

Also within the Bethel Census Area, Yupiit REAA communities are over 90% Alaska Native, largely of the Yup'ik cultural group. Note: Yupiit REAA was included in the original description of the Lower Kuskokwim REAA.

Pribilof Islands REAA

The Pribilof Islands REAA, in the Aleutians West Census Area, has a more racially diverse population, including Alaska Native (primarily Unangan), White, and Asian or Pacific Islander residents.

Limited English Proficiency (LEP)

Data on English language proficiency were obtained from the U.S. Census Bureau's 2023 American Community Survey (ACS) 5-Year Estimates, Tables DP02 (Selected Social Characteristics) and S1602 (Limited English Speaking Households). Across all disaster-impacted REAAs, LEP populations are present but vary widely in scale. Bethel and Kusilvak Census Areas report the largest numbers of households speaking Indigenous languages other than English, with smaller but notable LEP populations in Nome and Aleutians West.

HUD-identified MID (Most Impacted and Distressed) Areas

Bering Strait REAA

In the Nome Census Area, an estimated 1.9% of the population speaks English less than "very well," with over 1,000 households speaking Indigenous languages at home. The region's LEP population primarily reflects Alaska Native language speakers.

Kashunamiut REAA and Lower Yukon REAA

In the Kusilvak Census Area, 3.7% of residents speak English less than "very well," and over 900 households report using Indigenous languages. LEP challenges in this area are tied to the widespread use of Central Yup'ik.

State-identified MID (Most Impacted and Distressed) Areas

Lower Kuskokwim REAA and Yupiit REAA

In the Bethel Census Area, 4.6% of the population speaks English less than "very well." Over 3,000 households report speaking Indigenous languages, underscoring the need for translation and culturally responsive services in recovery programs. Note: Yupiit REAA was included in the original description of the Lower Kuskokwim REAA.

Pribilof Islands REAA

In the Aleutians West Census Area, 17.2% of the population speaks English less than "very well," with significant numbers of Asian and Pacific Islander language speakers as well as Alaska Native residents.

Persons with Disabilities

Across the disaster-impacted REAAs, the proportion of residents with disabilities ranges from 8.2% to 28.3%, with the highest rate observed in the Pribilof Islands REAA. These figures underscore the importance of ensuring that CDBG-DR programs are accessible and inclusive of people with disabilities, particularly in areas with elevated prevalence.

Table 17. Persons with Disabilities

MID (Most Impacted and Distressed) Areas	Persons With Disabilities (#)	Persons With Disabilities (%)
HUD-identified		
Bering Strait REAA	1084	11.3%
Kashunamiut REAA	63	13.6%
Lower Yukon REAA	933	14.0%
State-identified		
Lower Kuskokwim REAA	1806	11.5%
Yupiit REAA	100	8.2%
Pribilof Islands REAA	119	28.3%

Data Source(s): 2023 ACS 5-year Estimates, Table S1810

Note: Yupiit REAA was included in the original description of the Lower Kuskokwim REAA.

Other Protected Classes

Other protected classes (including locally defined protected classes) have not been identified in the impacted areas at the time of reporting but may be identified through planned outreach to MID communities in 2025-2026.

Concentrated Areas of Ethnicity and Poverty

Racially and ethnically concentrated areas and areas of concentrated poverty are prevalent across several REAAs, particularly those with majority Alaska Native populations and high poverty rates. For example, in the Kusilvak and Bethel Census Areas, more than 85% of the population identifies as Alaska Native or American Indian, and poverty rates exceed state and national averages. These conditions reflect long-term patterns of underinvestment and structural inequality. (Source(s): 2023 ACS 5-year Estimates, Tables DP05 (Race/Ethnicity) and S1701 (Poverty Status).)

Historically Distressed and Underserved Communities

All REAAs affected by the 2022 Typhoon Merbok include communities that meet federal definitions of historically distressed and underserved areas. These include remote Alaska Native villages facing persistent economic hardship, limited access to infrastructure and services, and exposure to climate change-related threats. Many lack year-round road access and have experienced decades of housing shortages, water and sewer challenges, and disinvestment in public facilities. (Source(s): HUD MID designations, 2023 ACS 5-Year Estimates, and FEMA disaster records for Typhoon Merbok)

Reduction of Barriers to Accessing Disaster Recovery Assistance

To reduce barriers and advance equity, the grantee will use data on language proficiency, disability status, poverty, culture, and other factors to tailor outreach and program delivery. Strategies will include offering translation services, ADA-accessible application sites, and culturally appropriate outreach in Alaska Native languages where needed. The 2022 Typhoon Merbok recovery process revealed a notable lack of applicants for key recovery assistance programs—particularly the FEMA Individual Assistance and SBA disaster loan programs—underscoring systemic access and capacity challenges. Many local governments and organizations lack staff with the skills, knowledge, and dedicated job responsibilities to help individuals apply for and successfully receive assistance. These

capacity gaps also limit local governments' ability to pursue, secure, and administer recovery funds. Grant writing and administration were identified as critical support needs in *The Unmet Needs of Environmentally Threatened Alaska Native Villages* (ANTHC, 2024). Community-based organizations will be engaged to reach households with limited internet access or familiarity with government programs. The grantee will prioritize coordination with Tribal governments, regional housing authorities, and local service providers to ensure equitable access and address unmet needs, particularly in remote and severely impacted areas. See section 3.1. Citizen Participation for additional details about the engagement plan.

2.2.7. Grantee Demographics and Disaster-impacted Populations

The population impacted by the disaster is disproportionately American Indian or Alaska Native (87.4%), significantly higher than their share of the state population (13.8%). Impacted areas also have higher shares of young children, individuals with disabilities, and elderly residents compared to statewide averages.

Table 18. Grantee Demographics and Disaster Impacted Populations (2023)

Demographics	Areawide (State) Estimate	Area Wide (State) Percent	Disaster Declaration Estimate (HUD + State-MIDs)	Disaster Declaration (HUD + State-MIDs) PERCENT	HUD MID	HUD MID Percent
Total Population	733,971	100.00%	34,165	100.00%	16,753	100.00%
Under 5 Years	47,825	6.5%	3,646	10.67%	1,781	10.63%
65 Years and Over	97,815	13.3%	2,658	7.78%	1,256	7.50%
Population with a Disability	92,451	13.1%	4,105	12.02%	2,080	12.42%
White or Caucasian	445,545	60.7%	4,727	13.84%	2,637	15.74%
Black or African American	22,774	3.1%	514	1.50%	308	1.84%
American Indian or Alaska Native	101,226	13.8%	29,972	87.73%	14,636	87.36%
Asian	47,099	6.4%	533	1.56%	283	1.69%
Native Hawaiian or Other Pacific Islander	11,379	1.6%	181	0.53%	48	0.29%
Other	16,144	2.2%	340	1.00%	224	1.34%

Data Source(s): 2023 ACS 5-year Estimates, Tables DP05 and S1810

2.2.8. Income Demographics

Households in the disaster-impacted areas face significant economic disparities compared to the statewide population. The median household income across the HUD- and state-identified Most Impacted and Distressed (MID) areas is $55,604, which is approximately 38% lower than the statewide median of $89,336, while per capita income in MID areas is less than half the statewide average.

Table 19. Income Demographics

Income/ Economics Demographic	Statewide	Areas Impacted by Disaster (HUD + State-MIDs)	HUD MIDS
Median Household Income	$89,336	$55,604	$54,006
Per Capita Income	$44,928	$18,104	$18,462

Data Source(s): 2023 ACS 5-year Estimates, Tables B19013 and B19301

2.2.9. Low- and Moderate-Income (LMI) Analysis

Low- and Moderate-Income (LMI) populations represent a substantial share of the communities affected by the disaster. Based on HUD LMI Summary Data, over 22,500 individuals—more than 70% of the total population in MID areas—qualify as LMI.

Table 20. Below Poverty Level

Income/ Economic Demographics	Statewide	Areas Impacted by Disaster (HUD + State-MIDs)	State MIDS	HUD MIDS
Income in the past 12 months below poverty level	72,978	8,406	4,140	4,266
Total for whom poverty is determined	716,703	33,385	17,033	16,352

Data Source(s): 2023 ACS 5-Year Estimates Subject, Table S1701, Poverty Status in the Past 12 Months

Table 21. LMI Analysis Overall

Category	Total LMI Persons	Total Population	Percent LMI
Areawide (State)	301,055	709,940	42.41%

Data Source(s): U.S. Department of Housing and Urban Development (HUD), Low and Moderate Income Summary Data (LMISD), FY 2021. Retrieved from https://www.hudexchange.info/programs/cdbg/cdbg-low-moderate-income-data/

Table 22. LMI Analysis Federally Declared Disaster Areas

County/ Municipality	Non-MID Total LMI Persons	Non-MID Total Population	Non-MID Percentage LMI	MID-Total LMI Person (HUD + State-MIDs)	MID-Total Population (HUD + State-MIDs)
Bering Strait REAA / Nome Census Tract 1, Block 1	0	0	0%	4,840	5,550
Bering Strait REAA / Nome Census Tract 2, Block 1	0	0	0%	130	995
Bering Strait REAA / Nome Census Tract 2, Block 2	0	0	0%	120	645
Kashunamiut REAA and Lower Yukon REAA / Kusilvak Census Tract 1, Block 4	0	0	0%	1,605	1,960
Lower Yukon REAA / Kusilvak Tract 1, Block 1	0	0	0%	2,840	3,500
Lower Yukon REAA / Kusilvak Census Tract 1, Block 2	0	0	0%	335	360
Lower Yukon REAA / Kusilvak Census Tract 1, Block 3	0	0	0%	1,650	2,145
Yupiit REAA and Lower Kuskokwin REAA/ Bethel Census Tract 1, Block 3	0	0	0%	1,170	1,455
Lower Kuskokwim REAA/Bethel Census Tract 1, Block 1	0	0	0%	1,450	1,835
Lower Kuskokwim REAA/Bethel Census Tract 1, Block 2	0	0	0%	1,130	1,340
Lower Kuskokwim REAA/Bethel Census Tract 1, Block 4	0	0	0%	1,965	2,260
Lower Kuskokwim REAA/Bethel Census Tract 1, Block 5	0	0	0%	2,335	2,945
Lower Kuskokwim REAA/Bethel Census Tract 2, Blocks 1-4	0	0	0%	2,565	6,095
Pribilof Islands REAA/Aleutians West Census Tract 1, Block 1	0	0	0%	405	675
Total	**0**	**0**	**0%**	**22,540**	**31,760**

Data Source(s): HUD ACS 5-Year 2016–2020 Low- and Moderate-Income (LMI) Summary Data

2.2.10. Manufactured Housing Units Impacted by Disaster

Manufactured housing units make up a small share of the housing stock in the disaster-impacted REAAs, ranging from under 1% to just over 3% of total units. The remaining unmet need shown in the table below is based on an analysis of FEMA IA data, which included mobile home units in the Bering Strait, Kashunamiut and Lower Yukon REAAs. Remaining unmet need is recorded as $0.00 for the Kashunamiut and Lower Yukon REAAs because awarded FEMA Individual Assistance (IA) for personal property, repair and/or replacement of homes met or exceeded the FEMA Verified Loss. FEMA IA records indicate that all properties were referred to the SBA Home Disaster Recovery Loan Program.

Table 23. Manufactured Housing Units Impacted by Disaster

County/Municipality	Number of Units	Percent Of Total Units in County/Municipality	Remaining Unmet Need
Bering Strait REAA	60	1.79%	$14,433.70
Kashunamiut REAA	3	1.84%	$0.00
Lower Yukon REAA	10	0.60%	$0.00
Lower Kuskokwim REAA	159	3.29%	$0.00
Yupiit REAA	9	3.54%	$0.00
Pribilof Islands REAA	1	0.79%	$0.00
Total	**242**	**2.33%**	**$14,433.70**

Data Source(s): 2023 ACS 5-Year Estimates Subject, Table DP04; FEMA IA Data for DR-4672-AK

Note: Yupiit REAA was included in the original description of the Lower Kuskokwim REAA

2.2.11. Limited English Proficiency Breakdown of Disaster-related Areas

Across the disaster-impacted REAAs, an estimated 2,064 individuals—or 5.5% of the population—speak English less than “very well,” according to 2023 ACS data. The highest rates of limited English proficiency are found in the Pribilof Islands REAA (17.2%) and Lower Kuskokwim and Yupiit REAAs (both at 4.6%), indicating a need for language-accessible recovery communications and services.

Table 24. Limited English Proficiency Breakdown of Disaster-related Areas

County/ Municipality	Estimate Speak English Less Than "Very Well"	Percent Speak English Less Than "Very Well"
Bering Strait REAA	175	1.9%
Kashunamiut REAA	263	3.7%
Lower Yukon REAA	263	3.7%
Lower Kuskokwim REAA	755	4.6%
Yupiit REAA	755	4.6%
Pribilof Islands REAA	871	17.2%
Total	**2,064**	**5.5%**

Data Source(s): 2023 ACS 5-year Estimates, Table DP02

2.2.12. Point-in-Time Count – Type of Shelter

The table below shows the most recent available one-night counts of unhoused individuals in Alaska, the FEMA-Declared areas for DR-AK-4672, the HUD-identified MID areas for DR-AK-4672, and the combined HUD- and State-identified MID areas for DR-AK-4672. Shelters for unhoused people exist primarily in Alaska hub communities, such as Anchorage. Nome and Bethel are regional hub communities with homelessness support facilities in the FEMA Declared and MID areas impacted by Typhoon Merbok. In the small villages surrounding these hub communities, the true homeless population is not well represented by point-in-time counts because most people stay with relatives in overcrowded homes. Section 2.2.1. Pre-disaster Unmet Need is estimated using a methodology that accounts for overcrowding in these communities. The table below shows Homeless Management Information System (HMIS) Data, which does not report disaggregated data for smaller communities in the MID areas.

Table 25. Point-in-Time Count – Type of Shelter (January 31, 2023)

Geography	Emergency Shelter	Transitional Housing	Unsheltered Homeless	Total Known Homeless
Areawide (State)	1,343	295	135	6,667
FEMA Declared [1]	124	0	0	125
HUD MID [2]	69	0	0	69
HUD and State MID [3]	124	0	0	125

Data Source(s): Alaska Balance of State Continuum of Care (CoC) Data - Institute for Community Alliances, Alaska Homeless Management Information System (HMIS) Data and Reports. Available: https://icalliances.org/alaska-communities-dashboard. Accessed July 31, 2025.

[1] FEMA Declared areas for DR-AK-4672 include the Bering Strait REAA, Kashunamiut REAA, Lower Kuskokwim RAA, and Lower Yukon REAA.

[2] HUD MID areas for DR-AK-4672 include Bering Strait REAA, Kashunamiut REAA, and Lower Yukon REAA.

[3] HUD and State MID areas for DR-AK-4672 include Bering Strait REAA, Kashunamiut REAA, Lower Kuskokwim RAA, Lower Yukon REAA, Yupiit REAA, and Pribilof Islands REAA.

2.2.13. Point-in-Time Count – Impacted by Disaster

Information requests were sent to providers of shelter and support services for people experiencing homelessness in the impacted areas. The Bethel Homeless Coalition, Nome Community Center and Bay Haven (in Hooper Bay) have confirmed that no homeless persons or support facilities were impacted by Typhoon Merbok in their respective areas. The Emmonak Women's Shelter is located along the Yukon River. Although information requests to providers did not result in reports of direct impact to the building, a substantial increase in erosion of the land adjacent to the building was reported.

2.2.14. Assisted Housing Impacted by the Disaster

Preliminary data indicate that 46 Low-Income Housing Tax Credit (LIHTC) units are located within the affected areas, with 17 in Bering Strait REAA and 29 in Lower Yukon REAA. Three LIHTC units were represented in FEMA IA data for DR-4672-AK, with a remaining unmet need of $11,395 in the Bering Strait REAA. Remaining unmet need is recorded as $0 for the Lower Yukon REAA because awarded FEMA Individual Assistance (IA) for personal property, repair and/or replacement of homes met or exceeded the FEMA Verified Loss. FEMA IA records indicate that all properties were referred to the SBA Home Disaster Recovery Loan Program.

No Housing Choice Voucher or Public Housing Dwelling Units have been reported as impacted to date, and further investigation is needed to assess unmet needs across all assisted housing types. Data requests have been made. More information about damages and unmet recovery needs will continue to be identified through planned outreach to MID communities and service providers in 2025-2026.

Table 26. Assisted Housing Impacted by the Disaster

County/ Municipality	Total Housing Choice Vouchers	Total Impacted Housing Choice Voucher Units	Total LIHTC Units	Total Impacted LIHTC Units	Total Public Housing Dwelling Units	Total Impacted Public Housing Dwelling Units	Remaining Unmet Need
Bering Strait REAA	0	0	17	2	1	0	$0
Kashunamiut REAA	0	0	0	0	0	0	$0
Lower Yukon REAA	0	0	29	1	0	0	$0
Lower Kuskokwim REAA	0	0	0	0	1	0	$0
Yupiit REAA	0	0	0	0	0	0	$0
Pribilof Islands REAA	0	0	0	0	0	0	$0
Total	**0**	**0**	**46**	**3**	**2**	**0**	**$0**

Data Source(s): Alaska Housing Finance Corporation (AHFC), "Alaska Housing Choice Voucher Program" webpage. Available: https://www.ahfc.us/pros/landlords/housing-choice-voucher-program/housing-choice-voucher-locations. Accessed July 28, 2025. U.S. Department of Housing and Urban Development (HUD) LIHTC data for Alaska. Available: https://www.huduser.gov/lihtc/. Accessed July 28, 2025. Alaska Housing Finance Corporation (AHFC) direct request for information about impacts from Typhoon Merbok and Remaining Unmet Recovery Need. FEMA Individual Assistance (IA) data.

2.3. Infrastructure Unmet Need

2.3.1. Pre-disaster Unmet Need

Western Alaska's coastal communities face severe and complex public infrastructure needs – spanning critical sectors of transportation, water and sanitation, energy, and food security. Most communities in the disaster impacted area are not connected to a road system and can only be accessed by air, by water, or, during the winter months, by snowmachine. Many of these communities rely on barges or air cargo to deliver necessary supplies. Village and rural roadways often consist of unpaved roads, walkways, trails, and boardwalks which serve as important routes to local hub towns, medical facilities, schools, and routes to subsistence hunting and fishing locations. In western Alaska, these roadways are often built on permafrost which experiences annual thawing and melting cycles. Conventional roadways are often unsustainable and cost prohibitive to build and maintain due to rapid deterioration (AK Legislature 2010). Coastal erosion – magnified by severe storms such as Typhoon Merbok – has undermined bulk fuel storage, seawalls, schools, and other essential buildings, often the only community shelters available. Pre-disaster assessments show widespread lack of plumbing infrastructure across communities like Diomede, Stebbins, Wales, Shishmaref, and Teller.

Access and transportation infrastructure unmet needs: Most communities are isolated from any permanent road network and can only be accessed by air, barge (in summer), or snowmachine during winter months. Local routes—unpaved roads, trails, and boardwalks atop saturated soils and/or permafrost—serve as lifelines to hub towns, schools, medical facilities, and subsistence hunting, fishing, and gathering areas. These infrastructures deteriorate rapidly due to thaw cycles, erosion, and flooding, making conventional construction both unsustainable and prohibitively expensive. This challenge has been recognized since at least 2010 by the Alaska Legislature.

The Northwest Alaska Transportation Plan, updated in Spring 2022 just before Typhoon Merbok, identifies regional transportation system threats and needs. It includes the Seward Peninsula, where many MID communities are located. Nome is considered the major transportation and commercial hub community for smaller communities in the Bering Straits REAA. The Nome Coordinated Transportation Plan, published in 2019, identifies needs for more efficient, affordable, accessible public wheelchair accessible transportation. See a list of unmet transportation needs from the Northwest Alaska Transportation Plan included below:

Aviation unmet needs:

- Adequate weather reporting, satellite, and cell coverage
- Airport repairs and upgrades, especially due to structural concerns from thawing permafrost and freight-specific concerns
- Lack of passenger shelters and restrooms

Road system unmet needs:

- Road repair and resiliency from thawing permafrost, erosion, and flooding
- Reduction in maintenance budgets due to DOT&PF budget reductions
- Purchase or replacement of old road maintenance equipment

- Dust control on unpaved roads, as dust reduced visibility, impacts subsistence food resources, and causes negative health/air quality impacts
- Identifying quality material sources for gravel
- Increase need for evacuation roads to reduce vulnerability to extreme weather events
- Connectivity of road connections to improve access
- Vehicle maintenance buildings are needed to provide space to maintain and store local maintenance equipment

Marine/Riverine unmet needs:

- Upgrade and resiliency measures for barge landing areas and associated access roads which have eroded or accreted
- Additional infrastructure needed to support increase in vessel activity in the Arctic

Winter trails and roads unmet needs:

- New or repaired bridges over large waterways to extend the winter trail season and reduce the risk of travelers falling through ice, as residents cannot rely on cold weather to freeze waterways
- Widespread, systematic trail marking
- Emergency trail shelter construction and maintenance

Many of these outstanding challenges and unmet needs are reported across MID communities and reflected in Alaska DOT&PF's Long-Range Transportation Plan, published in May 2021.

Access to clean water and sanitation unmet needs: A March 2022 Bering Strait Community Needs Assessment indicates that prior to 2022, one-quarter of occupied housing in the Nome Census Area lacked complete plumbing. In Diomede, 100% of housing lacked plumbing; in Stebbins, 98%; and in Wales, 96%. Additionally, Diomede, Shishmaref, Stebbins, Teller, and Wales had no piped water systems. Water and sewer cost burdens were high across the region, except in Shaktoolik (medium) and Savoonga (low). Existing infrastructure is vulnerable to erosion, flooding, thawing permafrost, and sediment damage. Sewage lagoons risk washout; tank farms are eroding and vulnerable to flooding; above-ground piping is suffering structural failure. For example, in Kotlik and St. Michael, damage led to multi-year loss of water and flush toilets. According to ANTHC's Unmet Needs Assessment of Environmentally Threatened Communities, "for the Alaska Native villages with water and sewer infrastructure, damage to water and sanitation infrastructure is a regular occurrence due to erosion, thawing permafrost, and flooding. Sewage lagoons are in danger of being washed away by flooding during fall storms, tank farms are encroached upon by erosion, and the structural integrity of above-ground water distribution systems is impacted by failing ground. These damages adversely impact human health by increasing the risk of waterborne diseases and decreasing the availability and quality of drinking water."

Energy infrastructure unmet needs: Villages rely on diesel-powered generators with bulk storage tanks. Many of these tanks are aging and sited in areas with melting permafrost, or erosion- or flood-threatened zones. Typhoon Merbok worsened their vulnerability by damaging protective berms and exposing infrastructure to coastal forces. Communities experience electrical grid breakdowns and

failures, in part due to maintenance needs and lack of qualified personnel to operate. Primary and backup generators are an identified unmet need in many communities.

General infrastructure unmet needs: In 2023, ANTHC published the Unmet Needs Assessment of Environmentally Threatened Communities. This report identified significant and ongoing unmet infrastructure needs among 144 environmentally threatened Alaska Native Villages, many of which were impacted by Typhoon Merbok. The report focuses on unmet needs due to, or exacerbated by, environmental hazards like erosion, flooding, and permafrost degradation – speaking to the intractable connection between infrastructure and mitigation needs in this region. ANTHC estimated that approximately $4.3 billion in 2020 dollars is needed over 50 years to mitigate infrastructure damage, including an $80 million annual funding gap over the next 10 years. Investing $1 in hazard mitigation yields about $6 in saved response and recovery costs. Despite 60 programs existing for support, only seven have aided environmentally threatened villages; two programs support tribal-led relocation or protection-in-place initiatives.

If divided equally among 144 communities (not accounting differences in size, population, or number of critical facilities), this would total approximately $29.9 million per community and approximately $1.6 billion in investment across MID communities over the next 50 years (ANTHC Unmet Needs Assessment, 2023).

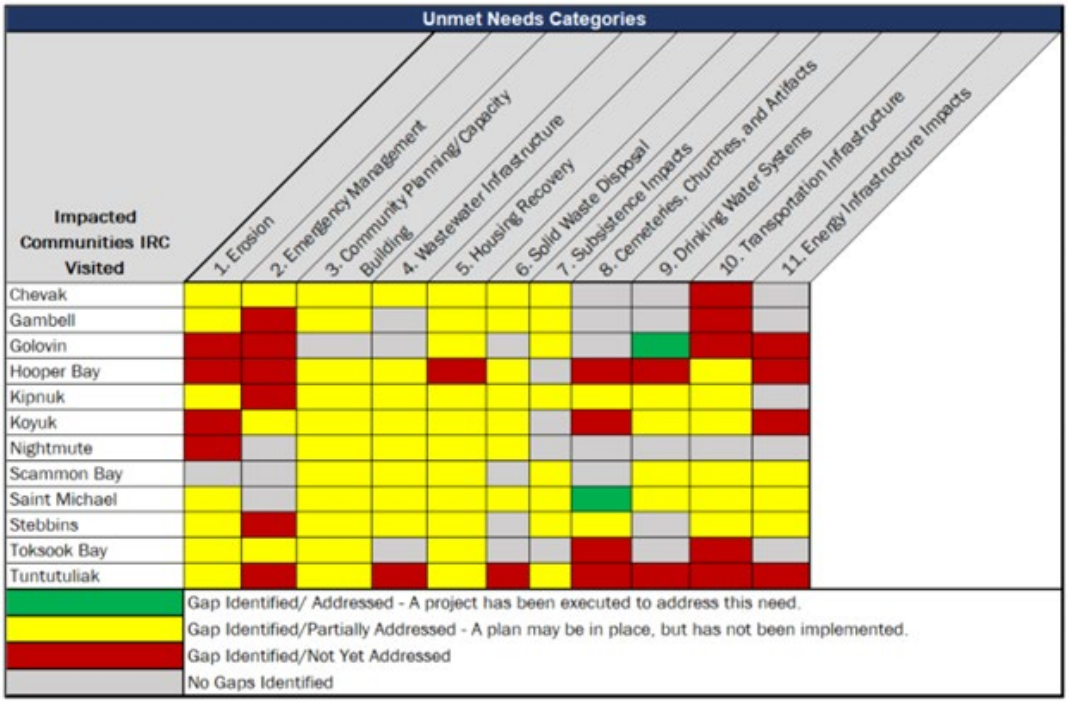
2.3.2. Disaster Damage and Impacts

This analysis estimates the disaster infrastructure unmet need as approximately $66 million, reflecting the local cost share required to address critical infrastructure deficiencies and incorporate resiliency measures. The calculation is based on a 25% local cost share of the total estimated infrastructure need of approximately $115 million, amounting to nearly $29 million, with an additional 15% of the estimated project cost for resiliency improvements added to enhance the infrastructure's ability to withstand future disasters. Added to that are known projects. This number may change as additional input is received.

The analysis includes essential infrastructure sectors such as transportation, water and wastewater systems, energy grids, and public facilities and is based off FEMA Public Assistance (PA) data collected through June 2025. Additionally, while no applications were submitted under DR-4672 for FEMA's Hazard Mitigation Grant Program, two projects were discussed with the State of Alaska and their estimates are included in the unmet need calculation, as they were not funded by HMGP.

In October 2023, FEMA and DHS&EM published a Recovery Needs Assessment available at https://www.commerce.alaska.gov/web/Portals/4/pub/CDBG-Merbok/DR-4672-AK%20Recovery%20Needs%20Assessment%20Second%20Edition%20FINAL%20DRAFT.pdf. This assessment summarized the recovery needs identified in: Chefornak, Chevak, Gambell, Golovin, Hooper Bay, Kipnuk, Koyuk, Napakiak, Newtok, Nightmute, Nome, Nunam Iqua, Scammon Bay, Shaktoolik, Shishmaref, Saint Michael, Stebbins, Toksook Bay, and Tuntutuliak. These recovery needs are summarized in this report. It is recommended that remaining Tribal and local governments are surveyed to identify additional unmet needs and associated costs of needed disaster-related infrastructure improvements.

Figure 14. Unmet Needs in Impacted Communities



Source: FEMA Recovery Strategy DR-4672-AK, October 2023.

Regional Infrastructure Loss and Damages

The 2022 Typhoon Merbok caused significant damage to public infrastructure across western Alaska. An Interagency Recovery Coordination Initial Assessment Report was published by FEMA on March 13, 2023. As of that date, the FEMA Public Assistance Damage Inventory included 120 entries, documenting damages to roads, sea walls, municipal buildings, sewage systems, cemeteries, and more. Local agencies and communities submitted preliminary damage assessments (PDAs) with estimated costs totaling over $126 million to FEMA's PA program. Since then, the total amount obligated by FEMA for infrastructure related damages is $97 million across all damage categories in the FEMA PA program, with the Bering Strait School REAA applying for the greatest amount of funds. For permanent works categories, FEMA's funding obligation totals $86.4 million. It is important to note that because the damage cost estimates are only estimates, these amounts may change as the projects get underway. Regional infrastructure damage included flood and erosion measures such as seawalls and berms designed to mitigate the impacts of storms like Typhoon Merbok. In Shaktoolik, a newly constructed berm was destroyed. This community is pursuing efforts to relocate (ANTHC 2024).

Roads and Bridges

Roads and bridges suffered the costliest damage compared with other permanent work categories. Erosion and debris caused by flood waters damaged roads, bridges, and culverts throughout the region. Damage to these critical infrastructure blocked evacuation routes, hampered rescue and relief efforts, and left communities without access to shelter, medical care or other necessities of life. Local agencies and communities assessed estimated preliminary damage costs of almost $52 million in this category alone.

According to FEMA's 2023 Recovery Needs Assessment, transportation infrastructure sustained severe damages across the region. In Chevak, the barge landing was damaged with less than 50% of the structure remaining. The associated access ramp was completely eroded away by Typhoon Merbok storm surge waves. In Golovin, Typhoon Merbok damaged roads that had recently been repaired. Kipnuk sustained damage to boardwalks, roads, bridges, and the barge landing from storm surge and related rains. Severe erosion impacted the barge landing and access road in Scammon Bay. Transportation infrastructure impacts for 19 communities are documented in the 2023 Recovery Needs Assessment, however the remaining communities have yet to be comprehensively surveyed.

Water Control Facilities

Water control facilities include systems and structures that manage water flow and flood protection, including dams, levees, floodwalls, basins, pump stations, and water diversion structures such as drainage channels. According to FEMA PA data, this category of infrastructure sustained nearly $20 million in damages. Protective sea walls and berms were compromised or completely destroyed in many communities, leaving critical infrastructure such as docks, runways, wastewater treatment facilities, and power plants vulnerable to flooding.

Buildings and Equipment

According to FEMA PA data, Typhoon Merbok caused approximately $2.7 million in preliminary estimated damage to public buildings and equipment, predominantly in the Bering Straits School REAA.

Prior to Typhoon Merbok, community systems in western Alaska were already stressed due to flooding, erosion, permafrost degradation, and other factors. The storm caused significant damages to municipal buildings, schools, communication equipment, and other public infrastructure. A comprehensive review of housing unmet needs, including the need for assessing proposed elevation and relocation, is included in Section 2.2.

Utilities

After roads and bridges, the costliest damage from Typhoon Merbok affected utility infrastructure. Damage to infrastructure in this category was estimated at a cost of nearly $27 million. Coastal communities in remote rural western Alaska rely on diesel-powered microgrids and renewable energy sources such as wind turbines. Energy infrastructure was damaged during the storm, requiring upgrades to become more resilient to future risks. Additionally, several communities need small (5kw) generators, and some need medium size trailer-mounted generators (20kw) to provide primary and backup power. This is a critical unmet need, because most village homes are heated with Toyo or Monitor oil stoves, and these stoves require electricity to ignite the burner and operate the fan. A power outage also means no home heat and associated freezing of the plumbing (FEMA Recovery Needs Assessment, 2023). In many communities, power outages caused subsistence food stores to be lost. In Koyuk, some homes were without power for up to two months, prompting community members to identify a backup generator as an unmet need. Scammon Bay's powerplant sustained flooding due to Typhoon Merbok (FEMA Action Recovery Plan, 2023).

Communities in Western Alaska generally rely on lagoons and leach fields as wastewater management solutions. When these areas flood, contaminants are released into the surrounding environment. Resiliency measures such as repairing and hardening wastewater infrastructure have been identified to protect community wastewater infrastructure in the future. Many communities sustained breaches of

their lagoon berms and wastewater infrastructure due to storm surge and flooding from Typhoon Merbok, including Chevak, Hooper Bay, Koyuk, Nightmute, and Stebbins.

Parks, Recreation, and Other Facilities

Damage to infrastructure in this category was estimated at a cost of nearly $15 million across affected areas, predominantly in the Bering Strait School REAA. Damages in this category include boardwalks, ramps, playgrounds, docks, and impacts to cemeteries and culturally significant structures. FEMA PA has logged several impacts to cemeteries and other culturally significant structures in the Damage Inventory for this disaster. In Stebbins, buried graves at a historic cemetery were damaged by storm surge waters, including 300 grave sites and 85 grave markers. Fifty graves were damaged in the community of St. Michael Historic Russian Orthodox Cemetery due to a landslide, which caused coffins to drop 50 to 60 feet to the beach. A beach-side subsistence property and an inner harbor in Nome were also damaged (FEMA Initial Assessment Report, 2023).

FEMA Programs

FEMA's PA program assists state, local, territorial, or Tribal (SLTT) governments and certain kinds of private nonprofit (PNP) organizations with funding that helps communities recover from major disasters or emergencies. Pursuant to the FEMA Public Assistance Applicant Handbook (2020), Alaska Native villages and organizations are eligible applicants. Privately owned Alaska Native Corporations are not eligible. By making assistance for hazard mitigation measures available, the PA program also assists in protecting damaged infrastructure from future impacts.

When an incident exceeds the capacity of state, local, tribal, or territorial (SLTT) governments to respond, a joint Preliminary Damage Assessment (PDA) with FEMA may be requested to evaluate the scale and impact. Based on PDA results, a governor or tribal chief executive may request a Presidential major disaster declaration. If a tribe submits a direct request to the President, it may be responsible for the non-federal cost share (typically 25%). Alternatively, if a tribe requests assistance through the State of Alaska, the state may assume the cost share on the tribe's behalf. Once a declaration is approved and Public Assistance (PA) is authorized, FEMA works with SLTT partners to determine applicant, facility, work, and cost eligibility, and then obligates funds for eligible recovery projects.

PA projects follow a cost sharing formula between the federal and local governments. On March 15, 2022, President Biden signed H.R. 2471 into law, which increased the minimum federal cost share from 75 to 90 percent for any emergency or major disaster declaration declared, occurring or having an incident period beginning between January 1, 2020, and December 31, 2021. Typhoon Merbok occurred outside of this date range, meaning that DR-4672 does not qualify for the 90 percent minimum federal cost share. On September 23, 2022, the President issued a major disaster declaration due to damage resulting from the remnants of Typhoon Merbok during the period of September 15 to September 20, 2022. The Bering Strait Regional Educational Attendance Area (REAA), Kashunamiut REAA, Lower Kuskokwim REAA, and Lower Yukon REAA were designated major disaster areas for Individual Assistance (IA) and Public Assistance (PA) Category B - Emergency Protective Measures. The declaration further made Hazard Mitigation Grant Program assistance available statewide. An amendment was subsequently issued to include all categories of PA programs and to add Pribilof Islands REAA for Public Assistance Categories A-G, but not IA.5. Another amendment authorized federal funds for Category B - Emergency Protective Measures at 100 percent of the total eligible cost for the first 30 days of the

incident period due to the severity and magnitude of damage in certain areas. This guidance replaced the previous 70 percent cost share for Category B (FEMA Initial Assessment Report, 2023).

PA projects fall into several categories, organized into either emergency work or permanent work. Emergency work addresses immediate threats and includes:

- Category A – Debris removal
- Category B – Emergency protective measures

Permanent work involves the restoration of damaged facilities and includes:

- Category C – Roads and bridges
- Category D – Water control facilities
- Category E – Buildings and equipment
- Category F – Utilities
- Category G – Parks, recreational and other facilities

Other category:

- Category Z – State Management

For the purposes of the unmet infrastructure needs assessment component of the CDBG-DR Action Plan, HUD only considers needs associated with permanent work.

As of June 10, 2025, projects from eligible PA applicants in the MID areas currently under FEMA review had total permanent work (PA categories C – G) damage costs estimated to be approximately $115 million, with a federal share obligation of approximately $86 million. This represents a 75 percent federal cost-share. The local share of PA project costs is an eligible use of CDBG-DR funds**.** If FEMA continues to obligate funds to permanent work projects, the unmet infrastructure need in the form of the local share of PA project costs will continue to increase as well. The estimated project amounts do not include administrative or mitigation costs. Mitigation amount refers to proposed Stafford Act, Section 406 hazard mitigation costs, which apply to permanent work projects and are limited to specific mitigation measures that can be added during repair or restoration.

Table 27. FEMA-DR 4672 Total Project Amount, Federal Share Obligated, and Mitigation Amount by Damage Category Code for Permanent Work Project Categories C – G

PA Category	Estimated Project Amount	Federal Share Obligated	Mitigation Amount
Bering Strait School REAA	**$68,905,505.90**	**$51,679,129.50**	**$1,188,270.07**
C - Roads and Bridges	$28,806,092.92	$21,604,569.70	$24,152.54
D - Water Control Facilities	$10,888,367.77	$8,166,275.83	$142,500.00
E - Buildings and Equipment	$2,019,543.41	$1,514,657.58	$379,420.30
F - Utilities	$15,955,058.51	$11,966,293.89	$405,880.89
G - Parks, Recreational Facilities, and Other Items	$11,236,443.29	$8,427,332.50	$236,316.34
Kashunamiut REAA	**$126,853.25**	**$95,139.94**	**$0.00**
F - Utilities	$126,853.25	$95,139.94	$0.00
Lower Kuskokwim REAA	**$5,239,393.21**	**$3,929,544.92**	**$18,202.82**
C - Roads and Bridges	$1,591,452.82	$1,193,589.62	$18,202.82
D - Water Control Facilities	$1,924,894.09	$1,443,670.57	$0.00
E - Buildings and Equipment	$414,948.40	$311,211.30	$0.00
F - Utilities	$644,635.85	$483,476.89	$0.00
G - Parks, Recreational Facilities, and Other Items	$663,462.05	$497,596.54	$0.00
Lower Yukon REAA	**$33,502,053.80**	**$25,126,540.39**	**$3,244,001.04**
C - Roads and Bridges	$20,264,741.10	$15,198,555.84	$14,447.57
E - Buildings and Equipment	$263,678.17	$197,758.63	$319.85
F - Utilities	$10,119,949.47	$7,589,962.12	$3,219,418.69
G - Parks, Recreational Facilities, and Other Items	$2,853,685.06	$2,140,263.80	$9,814.93
Pribilof Islands REAA	**$7,368,210.00**	**$5,526,157.50**	**$0.00**
C - Roads and Bridges	$296,186.00	$222,139.50	$0.00
D - Water Control Facilities	$7,047,024.00	$5,285,268.00	$0.00
E - Buildings and Equipment	$25,000.00	$18,750.00	$0.00
Total	**$115,142,016.16**	**$86,356,512.25**	**$4,450,473.93**

Data source: FEMA Public Assistance Program: "Public Assistance Funded Projects Details". Note that there are geographical inconsistencies in some of these estimates. Obvious errors, e.g. Stebbins reassigned from Southwest Region REAA to Bering Strait School REAA were corrected. This estimate was based off information gathered through June 2025.

Table 28. EMA-DR 4672 Total Project Amount, Federal Share Obligated, and Mitigation Amount by Damage Category Code A - Z

Pa Category By Geography	Estimated Project Amount	Federal Share Obligated	Mitigation Amount
Bering Strait School REAA	**$71,725,790.71**	**$54,314,197.16**	**$1,188,270.07**
A - Debris Removal	$334,296.71	$250,722.55	$0.00
B - Emergency Protective Measures	$472,806.59	$371,163.60	$0.00
C - Roads and Bridges	$28,806,092.92	$21,604,569.70	$24,152.54
D - Water Control Facilities	$10,888,367.77	$8,166,275.83	$142,500.00
E - Buildings and Equipment	$2,019,543.41	$1,514,657.58	$379,420.30
F - Utilities	$15,955,058.51	$11,966,293.89	$405,880.89
G - Parks, Recreational Facilities, and Other Items	$11,236,443.29	$8,427,332.50	$236,316.34
Z - Management Costs	$2,013,181.51	$2,013,181.51	$0.00
Kashunamiut REAA	**$130,367.32**	**$97,775.49**	**$0.00**
A - Debris Removal	$3,514.07	$2,635.55	$0.00
F - Utilities	$126,853.25	$95,139.94	$0.00
Lower Kuskokwim REAA	**$5,409,897.93**	**$4,098,854.70**	**$18,202.82**
A - Debris Removal	$4,779.75	$3,584.81	$0.00
C - Roads and Bridges	$1,591,452.82	$1,193,589.62	$18,202.82
D - Water Control Facilities	$1,924,894.09	$1,443,670.57	$0.00
E - Buildings and Equipment	$414,948.40	$311,211.30	$0.00
F - Utilities	$644,635.85	$483,476.89	$0.00
G - Parks, Recreational Facilities, and Other Items	$663,462.05	$497,596.54	$0.00
Z - Management Costs	$165,724.97	$165,724.97	$0.00
Lower Yukon REAA	**$35,271,359.28**	**$26,869,149.41**	**$3,244,001.04**
A - Debris Removal	$106,785.83	$80,089.37	$0.00
C - Roads and Bridges	$20,264,741.10	$15,198,555.84	$14,447.57
E - Buildings and Equipment	$263,678.17	$197,758.63	$319.85
F - Utilities	$10,119,949.47	$7,589,962.12	$3,219,418.69
G - Parks, Recreational Facilities, and Other Items	$2,853,685.06	$2,140,263.80	$9,814.93
Z - Management Costs	$1,662,519.65	$1,662,519.65	$0.00
Pribilof Islands REAA	**$7,403,094.91**	**$5,561,042.41**	**$0.00**
C - Roads and Bridges	$296,186.00	$222,139.50	$0.00
D - Water Control Facilities	$7,047,024.00	$5,285,268.00	$0.00
E - Buildings and Equipment	$25,000.00	$18,750.00	$0.00
Z - Management Costs	$34,884.91	$34,884.91	$0.00
Statewide	**$6,614,074.10**	**$6,564,781.96**	**$0.00**
B - Emergency Protective Measures	$225,567.57	$176,275.43	$0.00
Z - Management Costs	$6,388,506.53	$6,388,506.53	$0.00
Grand Total	**$126,554,584.25**	**$97,505,801.13**	**$4,450,473.93**

Data source: FEMA Public Assistance Program: "Public Assistance Funded Projects Details". Note that there are geographical inconsistencies in some of these estimates. Obvious errors were corrected, e.g. Stebbins reassigned from Southwest Region REAA to Bering Strait School REAA. This estimate was based off PA information gathered through June 2025.

Table 29. Total Cost and Need by Public Assistance Category including Resiliency Cost

Pa Category	Estimated Project Amount	25% Local Match	15% Resiliency	Total Need (Match + Resiliency)
C - Roads and Bridges	**$50,958,472.84**	**$12,739,618.18**	**$7,643,770.93**	**$20,383,389.11**
Bering Strait School REAA	$28,806,092.92	$7,201,523.22	$4,320,913.94	$11,522,437.16
Lower Kuskokwim REAA	$1,591,452.82	$397,863.20	$238,717.92	$636,581.12
Lower Yukon REAA	$20,264,741.10	$5,066,185.26	$3,039,711.17	$8,105,896.43
Pribilof Islands REAA	$296,186.00	$74,046.50	$44,427.90	$118,474.40
D - Water Control Facilities	**$19,860,285.86**	**$4,965,071.46**	**$2,979,042.88**	**$7,944,114.34**
Bering Strait School REAA	$10,888,367.77	$2,722,091.94	$1,633,255.17	$4,355,347.11
Lower Kuskokwim REAA	$1,924,894.09	$481,223.52	$288,734.11	$769,957.63
Pribilof Islands REAA	$7,047,024.00	$1,761,756.00	$1,057,053.60	$2,818,809.60
E - Buildings and Equipment	**$2,723,169.98**	**$680,792.47**	**$408,475.50**	**$1,089,267.97**
Bering Strait School REAA	$2,019,543.41	$504,885.83	$302,931.51	$807,817.34
Lower Kuskokwim REAA	$414,948.40	$103,737.10	$62,242.26	$165,979.36
Lower Yukon REAA	$263,678.17	$65,919.54	$39,551.73	$105,471.27
Pribilof Islands REAA	$25,000.00	$6,250.00	$3,750.00	$10,000.00
F - Utilities	**$26,846,497.08**	**$6,711,624.24**	**$4,026,974.56**	**$10,738,598.80**
Bering Strait School REAA	$15,955,058.51	$3,988,764.62	$2,393,258.78	$6,382,023.40
Kashunamiut REAA	$126,853.25	$31,713.31	$19,027.99	$50,741.30
Lower Kuskokwim REAA	$644,635.85	$161,158.96	$96,695.38	$257,854.34
Lower Yukon REAA	$10,119,949.47	$2,529,987.35	$1,517,992.42	$4,047,979.77
G - Parks, Recreational Facilities, and Other Items	**$14,753,590.40**	**$3,688,397.56**	**$2,213,038.56**	**$5,901,436.12**
Bering Strait School REAA	$11,236,443.29	$2,809,110.79	$1,685,466.49	$4,494,577.28
Lower Kuskokwim REAA	$663,462.05	$165,865.51	$99,519.31	$265,384.82
Lower Yukon REAA	$2,853,685.06	$713,421.26	$428,052.76	$1,141,474.02
Total	**$115,142,016.16**	**$28,785,503.91**	**$17,271,302.42**	**$46,056,806.33**

Data source: FEMA Public Assistance Program: "Public Assistance Funded Projects Details".

Note that there are geographical inconsistencies in some of these estimates. Obvious errors in source data were corrected, e.g. Stebbins reassigned from Southwest Region REAA to Bering Strait School REAA. This estimate was based off PA information gathered through June 2025. HUD does not have a fixed, mandated formula for calculating resiliency costs in CDBG-DR infrastructure projects. For planning purposes, this analysis applies a resiliency formula of 15 percent of the base infrastructure cost. This is consistent with best practice from FEMA's Hazard Mitigation Grant Program and Public Assistance and aligns with CDBG-DR's 15 percent resiliency cap to improve a project's resilience to future hazards. Resilience improvements must be reasonable and necessary, making infrastructure less vulnerable to future disasters. Examples may include relocating facilities outside of a floodplain or incorporating green infrastructure.

On September 23, 2022, the President issued a major disaster declaration due to damage resulting from the remnants of Typhoon Merbok during the period of September 15 to September 20, 2022 which further made Hazard Mitigation Grant Program assistance available statewide (FEMA Initial Assessment Report, 2023).

Section 404 of the Stafford Act authorizes that Hazard Mitigation Grant Program (HMGP) funds are available statewide in the event of a presidentially declared disaster. The Alaska Division of Homeland Security and Emergency Management is responsible for coordinating with FEMA to administer this grant. HMGP provides cost-share grants to eligible entities for cost-effective mitigation projects. Under the FEMA HMGP, the State of Alaska is responsible for the local match when jurisdictions apply through the State.

It should be noted that this is likely a significant underestimate of total unmet infrastructure need in the region. Information gathered through the community engagement process is subject to change this estimate.

Hazard Mitigation Unmet Need

Hazard Mitigation Grant Program: HMGP grant funds were made available following DR-4672 and approximately $15 million was allocated to projects across the State. However, no projects were submitted for DR-4672 from any of the communities affected by the disaster. St. Michael considered applying, but their project was ultimately submitted the following year under DR-4730 for Lower Yukon Flooding. Kawerak submitted notice of intents on behalf of Gamble and Elim, but HMGP did not have funding for 8-million and 12-million-dollar projects. These projects, totaling 20 million dollars, are added to the mitigation unmet need calculation. Kawerak also did not own what was proposed to be mitigated. HMGP never received anything from the communities directly.

It is noted that the State of Alaska historically receives few applications from Alaska's western coastal communities. A list of examples is included below. This list is not exhaustive.

- DR-4413: Newtok home buyout project submitted in January 2020 and awarded in February 2024.
- DR-4413: Kongiganak boardwalk retrofit project submitted in January 2020 and Phase 1 awarded in October 2024.
- DR-4351: Kipnuk home relocation project submitted in March 2019 and withdrawn.
- DR-4257: Project applications by three jurisdictions were not completed in time to meet the DR-4257 (2016) deadline and were moved to DR-4585 (2020). One jurisdiction has since withdrawn, and the others are pending FEMA review as of August 2025.

These projects underscore the challenges associated with meeting requirements to be awarded grant funds. Understanding and addressing the unique barriers that communities in western Alaska face in securing HMGP funding will help communities recover and build long-lasting resilience to future disasters.

Table 30. Mitigation Unmet Need

Source	Unmet Need
Information from the SOA regarding projects that were not submitted to HMGP but represent an unmet infrastructure need	$20,000,000
TOTAL	**$20,000,000**

Source: State of Alaska DHS&EM

Hazard Mitigation Needs per Community or Known Project

The Interagency Recovery Coordination (IRC) Team connects FEMA's network of regional federal recovery partners and their resources to state, tribal, and local partners to identify and fulfil their unmet needs. An IRC team has been working with select communities impacted by Typhoon Merbok, these are: Chevak, Gambell, Golovin, Hooper Bay, Kipnuk, Koyuk, Kwigillingok, Nightmute, Scammon Bay, Stebbins, St. Michael, Toksook Bay, and Tuntutuliak. A status update on projects to fulfil unmet needs demonstrates that there are several unfunded projects in each community. A preliminary review of this information demonstrates unfunded projects related to Infrastructure (e.g. Transportation Infrastructure, Subsistence Impacts, Water and Sewer Systems, Energy Infrastructure, and Solid Waste Disposal) and Mitigation (e.g. Flood and Erosion Control, Transportation Infrastructure, Recovery Capacity, and Housing Recovery). Further assessment of IRC information will inform future unmet need calculations and allocations.

The following table lists BIA TCR grant funds awarded across Merbok-affected communities in fiscal years 2022 and 2023. This information does not capture possible remaining unmet need associated with each project but demonstrates impacts from the disaster and recovery priorities. Unmet needs will be updated in future amendments with information from the community engagement process.

Table 31. Bureau of Indian Affairs Branch of Tribal Climate Resilience 2022 and 2023 Annual Awards Summary

Project by Community	Sum of Funded Amount by BIA TCR
Bering Strait REAA	**$1,648,592.00**
Chinik Eskimo Community (Golovin)	**$83,736.00**
Category 12: Relocation, Managed Retreat, and Protect-in-Place Planning Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$83,736.00
Kawerak, Inc.	**$511,685.00**
Category 1: Planning: Adaptation planning: Planning specialist	$249,147.00
Category 2 - Adaptation Planning: Climate change coordinator for mitigation and adaptation planning and implementation	$247,698.00
Category 3: Travel Support for Climate Adaptation Planning: Travel support and access for adaptation and resilience trainings	$14,840.00
Native Village of Diomede	**$232,036.00**
Category 1: Planning: Climate adaptation plan	$232,036.00
Native Village of Saint Michael	**$148,432.00**
Category 7: Relocation, Managed Retreat and Protect-In-Place Planning: Permafrost risk assessment	$148,432.00
Native Village of Shaktoolik	**$143,151.00**
Category 12: Relocation, Managed Retreat, and Protect-in-Place Planning Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$143,151.00
Native Village of Shishmaref	**$150,000.00**
Set-Aside 3: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$150,000.00
Native Village of Unalakleet	**$379,552.00**

Project by Community	Sum of Funded Amount by BIA TCR
Category 7: Relocation, Managed Retreat and Protect-In-Place Planning: Managed retreat housing prototype planning	$290,440.00
Set-Aside 3: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$89,112.00
Lower Kuskokwim REAA	**$15,857,056.00**
Native Village of Kipnuk	**$528,741.00**
Category 2 - Adaptation Planning: Permafrost risk assessment	$168,452.00
Category 7: Relocation, Managed Retreat and Protect-In-Place Planning: Long-term erosion and flood assessment	$245,056.00
Set-Aside 3: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$115,233.00
Native Village of Kongiganak	**$449,223.00**
Category 1 - Trainings and Workshops: GIS data collection and mapping training	$136,413.00
Category 2: Implementation: Erosion mitigation preliminary engineering project	$200,000.00
Set-Aside 3: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$112,810.00
Native Village of Kwigillingok	**$150,000.00**
Category 12: Relocation, Managed Retreat, and Protect-in-Place Planning Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$150,000.00
Native Village of Kwinhagak (aka Quinhagak)	**$121,494.00**
Set-Aside 3: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$121,494.00
Native Village of Kwinhagak (Quinhagak)	**$4,000,000.00**
Category 2: Implementation: Permafrost mitigation: Home assessment, barge landing assessment, multi-purpose facility design, preschool foundation replacement, managed retreat subdivision design	$4,000,000.00
Native Village of Nunapitchuk	**$2,217,314.00**
Category 11: Implementation for Relocation, Managed Retreat, and Protect-in-Place Actions: Managed retreat: Construction of new public safety building	$2,217,314.00
Native Village of Tuntutuliak	**$547,356.00**
Category 2 - Adaptation Planning: Permafrost risk assessment	$180,982.00
Category 7: Relocation, Managed Retreat and Protect-In-Place Planning: Near-term erosion risk assessment	$236,374.00
Set-Aside 3: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$130,000.00
Native Village of Tununak	**$122,898.00**
Set-Aside 3: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator : Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$122,898.00
Newtok Village	**$149,064.00**
Category 12: Relocation, Managed Retreat, and Protect-in-Place Planning Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$149,064.00

Project by Community	Sum of Funded Amount by BIA TCR
Nunakauyarmiut Tribe (Toksook Bay)	**$126,898.00**
Set-Aside 3: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$126,898.00
Village of Chefornak	**$7,444,068.00**
Category 11: Implementation for Relocation, Managed Retreat, and Protect-in-Place Actions: Managed retreat: Construction of heavy equipment, gravel pad, and gravel road for a new subdivision	$2,995,843.00
Category 12: Relocation, Managed Retreat, and Protect-in-Place Planning Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$149,708.00
Category 2: Implementation: Home stabilization and construction	$4,000,000.00
Category 7: Relocation, Managed Retreat and Protect-In-Place Planning: Permafrost risk assessment	$298,517.00
Lower Yukon REAA	**$198,899.00**
Native Village of Kotlik	**$102,861.00**
Set-Aside 3: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$102,861.00
Native Village of Nunam Iqua (Sheldon Point)	**$96,038.00**
Set-Aside 3: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$96,038.00
Pribilof Islands REAA	**$4,029,869.00**
Saint Paul Island	**$4,029,869.00**
Category 1: Planning: Strengthening Indigenous narratives through data dissemination and high impact storytelling	$249,215.00
Category 2: Implementation: Erosion stabilization of cemetery	$3,530,654.00
Category 4: Ocean and Coastal Management: Data analysis for flood and coastal erosion mitigation	$250,000.00
Yupiit REAA	**$3,181,687.00**
Akiak Native Community	**$2,856,775.00**
Category 11: Implementation for Relocation, Managed Retreat, and Protect-in-Place Actions: Managed retreat planning and implementation	$2,706,775.00
Category 12: Relocation, Managed Retreat, and Protect-in-Place Planning Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$150,000.00
Native Village of Tuluksak	**$14,856.00**
Category 3: Travel Support for Climate Adaptation Planning: Workshops for multi-jurisdictional Hazard Mitigation Plan	$14,856.00
Tuluksak Native Community	**$310,056.00**
Category 12: Relocation, Managed Retreat, and Protect-in-Place Planning Coordinator: Relocation, Managed Retreat, or Protect-in-Place (RMP) Coordinator	$65,000.00
Category 7: Relocation, Managed Retreat and Protect-In-Place Planning: Long-term erosion and flood assessment	$245,056.00
Grand Total	**$ 24,916,103.00**

2.4. Economic Revitalization Unmet Needs

2.4.1. Pre-disaster Unmet Need

The HUD- and State-identified MID areas are remote, isolated, and impoverished regions with significant pre-existing unmet need for economic support. The size of communities in the impacted areas range from 42 – 6,022 inhabitants (2024 Population Estimates, Alaska Department of Labor and Workforce Development, Research and Analysis Section). All are remote communities that are not connected to an intrastate road system, making travel challenging and expensive. The villages and municipalities are largely Alaska Native, with complex landownership rights and cultural emphasis on a subsistence economy.

Governor Michael J. Dunleavy's Request for Major Disaster Declaration letter of September 20, 2022 states that:

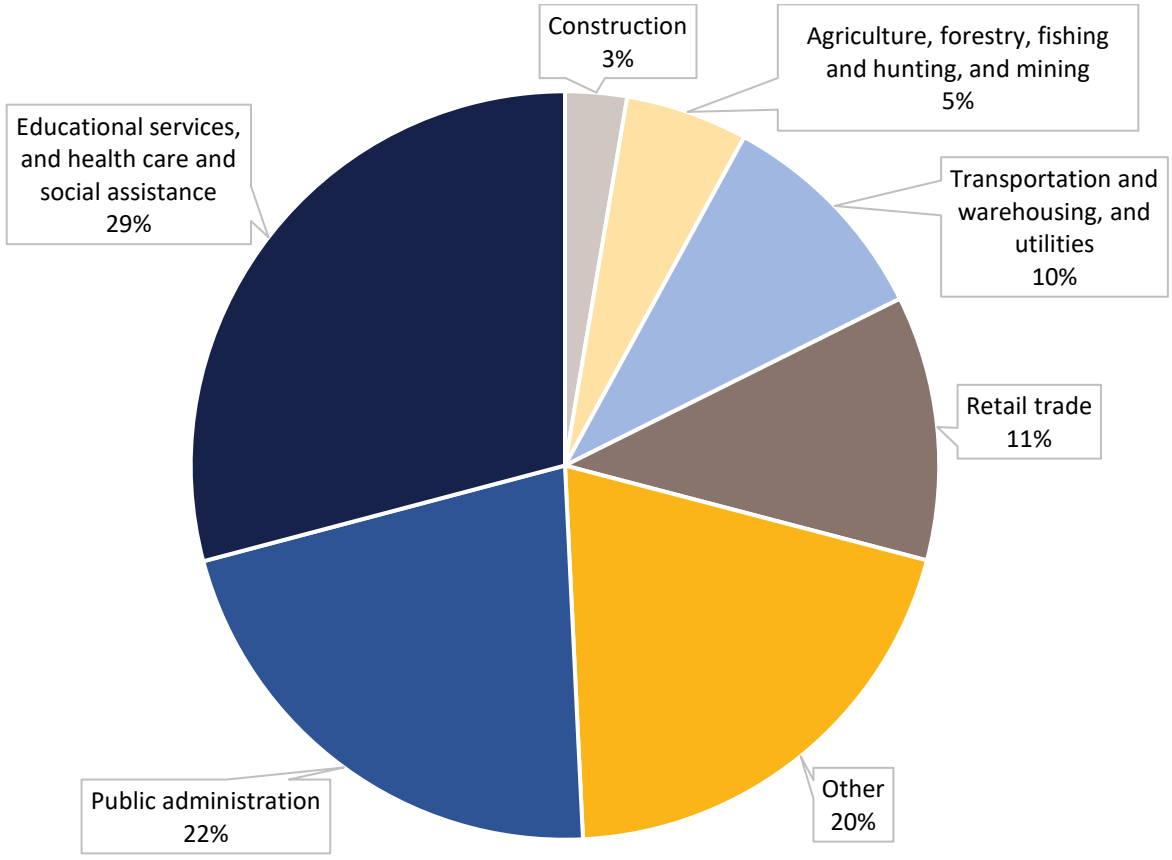
> *"The communities affected by this storm have a high percentage of families at or below the federal poverty level, and many are subsistence-based. For example, the communities within the Bering Strait REAA reflect the economic situation along the entire Western Coast of Alaska. For small communities within this area (i.e., populations less than 700 residents), poverty levels range from 14.7 to 52.1 percent, and unemployment rates range from 13.8 to 38.7 percent. Private property insurance is largely unavailable or cost prohibitive; therefore, almost all residents with reported home damage were likely uninsured against storm loss. As stated previously, the State of Alaska is currently seeking supplementary federal assistance for individuals and families."*

The Alaska Department of Fish and Game Division of Subsistence characterized this economy as a "mixed, subsistence-market" economy in a 2014 study.[2] "Families invest money into small-scale, efficient technologies to harvest wild foods, such as fish wheels, gillnets, motorized skiffs, and snowmachines. Subsistence food production is directed toward meeting the self-limited needs of families and small communities, not market sale or accumulated profit as in commercial market production. Families follow a prudent economic strategy of using a portion of the household monetary earnings to capitalize in subsistence technologies for producing food… Successful families in these areas combine jobs with subsistence activities and share wild food harvests with cash-poor households who cannot fish or hunt, such as elders, the disabled and single parents with small children." The study estimated that in Western Alaska (which includes all HUD and State-identified MID communities), 70%-90% of households participate in harvesting or using game, and 98-100% of households participate in harvesting or using fish. Wild food harvests in Western Alaska accounted for an estimated 370 pounds per person per year in the 2014 study, with an estimated wild food replacement value between $4-8 per pound, or $1,480-$2,960 per person per year.

[2] Division of Subsistence, Alaska Department of Fish and Game (2014). Subsistence in Alaska: A Year 2014 Update. Available: https://www.adfg.alaska.gov/static/home/subsistence/pdfs/subsistence_update_2014.pdf. Accessed July 29, 2025.

Employment by industry for all HUD- and State-identified MID areas is shown in the chart below. This mix of industries is typical of local economies within the MID areas.

Figure 15. Citizen Employed Population by Industry across MID Regions, % of total employment.



**Other includes manufacturing; wholesale trade; information; finance and insurance, and real estate and rental and leasing; professional, scientific, and management; and administrative and waste management services; arts entertainment, and recreation, and accommodation and food services; and other services, except public administration*

Data Source: U.S. Census Bureau, 2023: American Community Survey 5-Year Estimates Subject Tables, Industry by Occupation for the Civilian Employed Population 16 Years and Over.

Per Capita Income

Table 32. Per Capita Income in Past 12 Months (2023 inflation-adjusted dollars) in MID Areas, by REAA.

MID (Most Impacted and Distressed) Areas	Per Capita Income in Past 12 Months (2023 inflation-adjusted dollars)
HUD-identified	
Bering Strait REAA	$21,402
Kashunamiut REAA	$22,264
Lower Yukon REAA	$15,773
State-identified	
Lower Kuskokwim REAA	$25,090
Yupiit REAA	$18,142
Pribilof Islands REAA	$31,559

Data Sources: U.S. Census Bureau, 2023: American Community Survey 5-Year Estimates Detailed Tables, Per Capita Income in the Past 12 Months (in 2023 inflation-adjusted dollars).

Employment

Table 33. Unemployment Levels and Labor Force Participation Rates in MID Areas, by REAA.

MID (Most Impacted and Distressed) Areas	Labor Force Participation Rate, Age 16 Years and Over	Unemployment Levels, Age 16 Years and Over
HUD-identified		
Bering Strait REAA	59.0%	21.7%
Kashunamiut REAA	53.4%	18.9%
Lower Yukon REAA	56.9%	17.7%
State-identified		
Lower Kuskokwim REAA	59.5%	14.3%
Yupiit REAA	67.2%	11.7%
Pribilof Islands REAA	50.8%	1.3%

Data Sources: U.S. Census Bureau, 2023: American Community Survey 5-Year Estimates Subject Tables, Employment Status.

2.4.2. Disaster Damage and Impacts

Concentration of Damage

Since Typhoon Merbok, the State of Alaska has worked with local, private non-profit and volunteer organizations, as well as state and federal agencies to determine the impact to residents, private homes, and private and commercial properties throughout the impacted REAAs. This assessment is still in development but is generalized below:

As of September 20, 2022, the State PDA identified 69 homes and 28 other structures with wind or flooding damage. Other structures include schools, cabins, warehouses, and outbuildings. There is

severe damage to community infrastructure, with damage to many homes and businesses occurring in largely Alaska Native, remote, isolated, and impoverished regions.

In October 2023, FEMA and DHS&EM published a Recovery Needs Assessment, available at https://www.commerce.alaska.gov/web/Portals/4/pub/CDBG-Merbok/DR-4672-AK%20Recovery%20Needs%20Assessment%20Second%20Edition%20FINAL%20DRAFT.pdf. This assessment summarized the recovery needs identified in: Chefornak, Chevak, Gambell, Golovin, Hooper Bay, Kipnuk, Koyuk, Napakiak, Newtok, Nightmute, Nome, Nunam Iqua, Scammon Bay, Shaktoolik, Shishmaref, Saint Michael, Stebbins, Toksook Bay, and Tuntutuliak.

Subsistence Impacts

Residents of MID areas experienced impacts to subsistence long after the storm. Lost or damaged harvesting equipment included fish camps, fish racks, boats, fuel tanks, batteries and motors.[3] In the years following Typhoon Merbok, subsistence harvests declined noticeably. Brackish floodwaters from the storm surge seeped into coastal lands, soaking tundra vegetation in unusually salty water. Many of these subsistence plant species did not return the following years, including berries (e.g., crowberry, low-bush cranberry), edible roots and medicinal plants. Residents reported fewer birds of prey and other predators, which feed on mice and other prey species that relied on the impacted vegetation.[4]

Property Damage

Severe damage was documented in the October 2023 Recovery Needs Assessment (FEMA, State of Alaska DHS&EM) to businesses, private and commercial properties, as well as the following subsistence impacts, “Residents lost equipment and stored food. While the FEMA and State IA programs reimbursed applicants for damaged or lost subsistence equipment, not all impacted residents applied, and gaps remain.” Because many residents and business owners in the affected area did not apply for the FEMA and SBA federal assistance programs, more information about unmet recovery needs will be identified through planned outreach to MID communities in 2025-2026.

FEMA Individual Assistance (IA) Program data do not distinguish whether the property is used for subsistence activities. The FEMA IA data for DR-4672-AK recorded five boats. No verified loss was reported, and no damage level was indicated for any of these boats; all were referred to the Small Business Administration Disaster Recovery Loan Program.

[3] Schwing, Emily. December 29, 2023. “Subsistence gear lost during Typhoon Merbok still litters the tundra in Western Alaska,” Alaska Public Media. Available: https://www.kyuk.org/public-safety/2023-12-29/subsistence-gear-lost-during-typhoon-merbok-still-litters-the-tundra-in-western-alaska. Accessed July 31, 2025.

[4] Schwing, Emily. October 12, 2023. “A year after Typhoon Merbok, some coastal Alaskans struggle to find subsistence foods,” Alaska Public Media. Available: https://alaskapublic.org/news/2023-10-12/a-year-after-typhoon-merbok-some-coastal-alaskans-struggle-to-find-beloved-subsistence-foods. Accessed July 31, 2025.

Schwing, Emily. April 9, 2024. “More than a year later, a record storm still thwarts subsistence food harvest in Alaska,” in High Country News. Available: https://www.hcn.org/articles/more-than-a-year-later-a-record-storm-still-thwarts-subsistence-food-harvests-in-alaska/. Accessed July 31, 2025.

Table 34. FEMA Individual Assistance (IA) for DR-4672-AK

MID (Most Impacted and Distressed) Areas	Count of Boats	Total Verified Loss	Damage Level	Flagged for SBA Referral
HUD-identified				
Bering Strait REAA	2	$0	Not recorded	2
Kashunamiut REAA		$0	Not recorded	
Lower Yukon REAA	2	$0	Not recorded	2
State-identified				
Lower Kuskokwim REAA	1	$0	Not recorded	1
Yupiit REAA		$0	Not recorded	
Pribilof Islands REAA		$0	Not recorded	
Total	**5**	**$0**		**5**

Sources: FEMA Individual Assistance (IA) data, provided by FEMA for analysis though a data sharing agreement, June 5, 2025.

Disruption to Business

The Small Business Administration (SBA) makes low-cost disaster loans available to qualified businesses and homeowners through its Disaster Recovery Loan Program. Disaster Business Loans are for businesses that experienced physical damage. Economic Injury Disaster Loans (EIDL) are available to small businesses and nonprofit organizations that sustained substantial economic injury. According to the SBA, a single disaster recovery business loan was approved for the Typhoon Merbok disaster. (Note: Requests for information have also been sent to the regional CDQ groups, but no additional information to date.)

Table 35. Small Business Administration (SBA) Individual Assistance Disaster Loan Applications for Disaster Declaration AK-00055 Severe Storm, Flooding, and Landslides (2022)

Loan Type	Initial Application Count	Full Application Count	Offer Count	Offer Amount	Disbursement Count	Disbursement Amount
Disaster Business Loan (Physical Damage)	13	13	1	$25,000	1	$25,000
Economic Injury Disaster Loan (EIDL)	2	2	0	$0	0	$0
Total	**15**	**15**	**1**	**$25,000**	**1**	**$25,000**

Source: Small Business Administration (SBA). Available: https://data.sba.gov/dataset/office-of-capital-access. Accessed: July 24, 2025.

Table 36. Small Business Administration (SBA) Individual Assistance Disaster Loans Unmet Need for Disaster Declaration AK-00055 Severe Storm, Flooding, and Landslides (2022)

MID (Most Impacted and Distressed) Areas	Offer Count	Total Verified Loss/Verified Business Content Loss	Disbursement	Remaining Unmet Need
HUD-identified				
Bering Strait REAA	1	$32,500	$25,000	$7,500
Kashunamiut REAA	0	$0	$0	$0
Lower Yukon REAA	0	$0	$0	$0
State-identified				
Lower Kuskokwim REAA	0	$0	$0	$0
Yupiit REAA	0	$0	$0	$0
Pribilof Islands REAA	0	$0	$0	$0
Total	**1**			**$7,500**

Source: Small Business Administration (SBA).

Unemployment Insurance

An analysis of unemployment insurance claims related to FEMA Disaster 4672 may help quantify some of the impact of Typhoon Merbok on employment in the MID areas. A total of $7,674 in unemployment insurance was paid to claimants related to Typhoon Merbok in 2022.

Table 37. Disaster Unemployment Assistance Activities Detail, FEMA DR No. 4672

Disaster Declaration Date	Disaster Report Date	DUA Claims	First Payments	Weeks Claimed	Weeks Compensated	Amount Compensated	Total
09/23/2022	10/31/2022	7	1	4	4	368	368
09/23/2022	11/30/2022	3	1	8	7	1604	1972
09/23/2022	12/31/2022	0	0	4	4	368	2340
09/23/2022	01/31/2023	0	0	13	13	3308	5648
09/23/2022	02/28/2023	0	0	8	8	1440	7088
09/23/2022	03/31/2023	0	0	2	2	586	7674
09/23/2022	04/30/2023	0	0	0	0	0	7674

Source: U.S. Department of Labor, Employment & Training Administration, Disaster Unemployment Assistance Activities Detail – State AK, FEMA DR No. 4672. Accessed: August 1, 2025.

2.6. Mitigation Only Activities

2.6.1 Introduction

The Mitigation Needs Assessment is a risk-based assessment that summarizes the natural threats and hazards in the areas listed below.

HUD-identified "most impacted and distressed" (MID) areas:

- Bering Straits Regional Education Attendance Area (Nome Census Area) has the following communities: Brevig Mission, Diomede, Elim, Gambell, Golovin, Koyuk, Nome, Saint Michael, Savoonga, Shaktoolik, Shishmaref, Stebbins, Teller, Unalakleet, Wales, and White Mountain.
- Kashunamiut Regional Education Attendance Area (Kusilvak Census Area) has the following community: Chevak.
- Lower Yukon Regional Education Attendance Area (Kusilvak Census Area) has the following communities: Alaknuk, Emmonak, Hooper Bay, Kotlik, Marshall, Mountain Village, Nunam Iqua, Pilot Station, Russian Mission, Saint Mary, and Scammon Bay.

State-identified "most impacted and distressed" (MID) areas:

- Lower Kuskokwim and Yupiit Regional Education Attendance Areas (Bethel Census Area) has the following communities: Akiachak, Akiak, Atmautluak, Bethel, Chefornak, Eek, Goodnews Bay, Kasigluk, Kipnuk, Kongiganak, Kwethluk, Kwigillingok, Mekoryuk, Napakiak, Napaskiak, Newtok, Nightmute, Nunapitchuk, Oscarville, Platinum, Quinhagak, Tuluksak, Tuntutuliak, Tununak, and Toksook Bay.
- Pribilof Islands Regional Education Attendance Area (Aleutians West Census Area) has the following communities: Saint George and Saint Paul.

The Mitigation Needs Assessment informs the use of the State of Alaska's 15% minimum CDBG-DR mitigation set-aside and helps build resilience and mitigation measures into recovery programs and projects. This set-aside is designed to fund activities that reduce future risks from natural disasters and is distinct from FEMA's Section 406 hazard mitigation (which applies to public assistance infrastructure) and HUD's 15% resiliency allowance (a project-level increase to allow resilient upgrades).

This assessment does not look only at severe weather and flood risk. It considers other natural hazards likely to threaten MID communities, including changes in cryosphere, wildland fire, erosion, ground failure (landslides), permafrost degradation, and climate change. These hazards were identified in local and Tribal FEMA-approved Hazard Mitigation Plans (HMPs), representing 49 of 56 communities included in the Unmet Needs Assessment and Action Recovery Plan. The hazards were also identified in the 2023 State of Alaska State Hazard Mitigation Plan. It is important to note that these HMPs have a 5-year lifespan. While many of the surveyed HMPs have expired, the hazards assessed in those lapsed plans contain useful information about relevant hazards and risks for this assessment.

In addition to current hazards posed to the affected area, the Mitigation Needs Assessment considers future threats identified in the State of Alaska's Hazard Mitigation Plan and those of local jurisdictions, particularly as severe weather events become more frequent and intense. In this way, the State of

Alaska can ensure that it minimizes vulnerabilities to the impacts of future extreme events through its recovery and mitigation projects and programs.

This assessment will provide a basis upon which to propose programs and projects that will mitigate current and future hazards. In addition, it will inform projects undertaken through CDBG-DR, so they do not exacerbate natural hazard threats and make the best possible use of limited resources for recovery and mitigation.

HUD is required by appropriations law to set aside 15% of unmet-needs CDBG-DR funding specifically for mitigation activities, in this case totaling $5,021,000.

2.6.2 State Hazard Mitigation Plan

The Department of Commerce, Community, and Economic Development (DCCED) worked closely with the Department of Military and Veterans Affairs/Division of Homeland Security & Emergency Management (DMVA/DHS&EM) on the development and maintenance of the FEMA-approved State of Alaska Hazard Mitigation Plan (Alaska SHMP) 2023, which is listed on https://www.commerce.alaska.gov/web/dcra/GrantsSection/CDBG-DR-Merbok.aspx. Section 6 - Mitigation Strategy includes the following tables, which can be found in full in the plan.

- Table 6-1: Prioritized Mitigation Action Plan
- Table 6-2: Hazard Mitigation Planning Actions
- Table 6-3: Assessment and Mapping Actions
- Table 6-4: Structure and Infrastructure Actions
- Table 6-5: Nature-Based Solution Actions
- Table 6-6: Outreach and Awareness Actions

The Alaska SHMP (https://ready.alaska.gov/Mitigation/SHMP) profiles hazards, identifies risks and vulnerabilities, and proposes strategies and actions to reduce risks to people, property, the economy, the environment, infrastructure and first responders in Alaska. The Risk Assessment and Hazard Analysis section includes hazard profiles for nine natural hazards, state asset vulnerability assessments and guidance to local jurisdictions undertaking risk assessments.
The eight identified major natural hazards in the Alaska SHMP are:

- Cryosphere and Permafrost Degradation
- Earthquake
- Flood and Erosion
- Ground Failure
- Tsunami and Seiche
- Volcano
- Severe Weather
- Wildland Fire and Community Fire
- High Hazard Potential Dams (man-made)

Table 6-1 lists select mitigation actions developed across the following categories: hazard mitigation planning, assessment and mapping, structure and infrastructure, nature-based solutions, and outreach and awareness. These mitigation actions are assigned a priority based on the action's ability to address a

major capability gap or address an urgent need and be cost-effective, environmentally sound, and technically feasible to the greatest extent possible (State HMP 2023).

Tables 6-2 through 6-6 list detailed project descriptions; hazards mitigated; potential funding sources; project sources; and cost, environmental, and technical considerations for each mitigation action. In addition, for each mitigation action there is description of how the action contributes to the SHMP's hazards mitigation goals. Table 6-2 also discusses how mitigation actions identified in local and tribal hazard mitigation plans link to the 2023 SHMP (SHMP 2023).

Table 38. Excerpt from Table 6-1: Prioritized Mitigation Action Plan

Project Type	Project Name	Priority
Hazard Mitigation Planning	Mitigation Planning Database Expansion	Very high
	Local and Tribal Hazard Mitigation Planning Support	Very high
	Local and Tribal Community Mitigation Strategies Link-Up to State Mitigation Strategy	Very high
Assessment and Mapping	Risk MAP (Mapping, Assessment, and Planning) Expansion	Very high
	Coastal Community Flood Assessment Expansion	Very high
	Alaska Climate Change Impact Mitigation Program Expansion	Very high
	Tsunami Inundation Mapping Program Expansion	Very high
	Alaska Statewide Digital Elevation Model Update	Very high
	Wetland Map Expansion	High
	Inundation Mapping Quality and Program Expansion for High Hazard Potential Dams	High
	Erosion Forecast Mapping Expansion	High
	Shoreline Change Mapping Expansion	High
	University of Alaska Fairbanks Scenarios Network for Alaska + Arctic Planning (UAF/SNAP) Database Expansion	High
	Expansion of Small Community Emergency Response Plan (SCERP) Program	High
Structure and Infrastructure	Flood Buyout Expansion	Very high
	Statewide Transportation Facilities Comprehensive Dataset Expansion	High
Nature-Based Solutions	Coastal and Riverbank Stabilization Program	High
	Wetlands Action Plan Templates	High
Outreach and Awareness	Hazard Mitigation Training	Very high
	Rural Resilience Workshop Expansion	High
	Tsunami Operations Workshop Expansion	High
	TsunamiReady and StormReady Expansion	High
	Continuation of Building Safety Month	High
	National Flood Insurance Program Expansion	High

Table 39. Excerpt from Table 6-2: Hazard Mitigation Planning Actions

Mitigation Planning Database Expansion	
Description	Background: As described in Sections 5 and 7, DHS&EM has created a database that contains information from every local and tribal Hazard Mitigation Plan (HMP) on file with the State. With this information, DHS&EM, can quickly generate community tables/reports. Action: Grow the database to be able to quickly identify threats and hazards within a community or communities and generate a standardized community-specific executive summary sheet that contains hazards/threats, mitigation strategy (goals/prioritized actions), and critical assets (particularly, the owners of the assets). Establish a criterion for hazard probability and magnitude for future updates to Table 4.3-1: Local Jurisdiction Probability and Magnitude. Include interactive hazard mapping within the database. Additional information: Overall, an expansion of the DHS&EM Mitigation Planning Database will allow local and tribal hazard mitigation plans, including critical facility lists, risk assessments and mitigation strategies, to be queried by DHS&EM on a regular basis and be captured to include in future versions of the State HMP.
Hazard Mitigation Goal	Goal 2: The expanded DHS&EM Mitigation Planning Database will help DHS&EM staff better understand areas and critical facilities that are vulnerable to all hazards. Goal 3: The expanded DHS&EM Mitigation Planning Database will help DHS&EM staff develop an inventory of HMP mitigation projects to reduce risks and increase resilience.
Hazards Mitigated	All
Potential Funding Source	Building Resilient Infrastructure and Communities (BRIC) and Hazard Mitigation Grant Program (HMGP)
Project Source	DHS&EM
Cost Considerations	Data acquisitions, operational and maintenance expenses
Environmental Considerations	None
Technical Considerations	Staff with database management capabilities and hazard mitigation program knowledge
Local and Tribal Hazard Mitigation Planning Support	
Description	Background: DHS&EM's Hazard Mitigation Program was initiated in response to Disaster Mitigation Act of 2000 (DMA 2000), which mandates community hazard mitigation planning for FEMA disaster mitigation funding eligibility. The State supports local and tribal hazard mitigation planning efforts with grant funding opportunities and direct assistance. Action: Continue to support local and tribal communities throughout Alaska with hazard mitigation planning grant funding opportunities and direct assistance.
Hazard Mitigation Goal	Goal 1: Hazard mitigation planning will increase awareness about all hazards. Goal 2: Hazard mitigation planning will help the State as well as local and tribal communities identify locations and critical facilities that are vulnerable to all hazards. Goal 3: Hazard Mitigation planning and direct assistance will help local and tribal communities implement projects to reduce risks and increase resilience to all hazards.
Hazards Mitigated	All
Potential Funding Source	BRIC and HMGP

Project Source	DHS&EM
Cost Considerations	Data acquisition, operational and maintenance expenses
Environmental Considerations	None
Technical Considerations	Staff with database management capabilities and hazard mitigation program knowledge

Table 40. Excerpt from Table 6-3: Assessment and Mapping Actions

Mitigation Planning Database Expansion	
Description	Background: As described in Sections 5 and 7, DHS&EM has created a database that contains information from every local and tribal Hazard Mitigation Plan (HMP) on file with the State. With this information, DHS&EM, can quickly generate community tables/reports. Action: Grow the database to be able to quickly identify threats and hazards within a community or communities and generate a standardized community-specific executive summary sheet that contains hazards/threats, mitigation strategy (goals/prioritized actions), and critical assets (particularly, the owners of the assets). Establish a criterion for hazard probability and magnitude for future updates to Table 4.3-1: Local Jurisdiction Probability and Magnitude. Include interactive hazard mapping within the database. Additional information: Overall, an expansion of the DHS&EM Mitigation Planning Database will allow local and tribal hazard mitigation plans, including critical facility lists, risk assessments and mitigation strategies, to be queried by DHS&EM on a regular basis and be captured to include in future versions of the State HMP.
Hazard Mitigation Goal	Goal 2: The expanded DHS&EM Mitigation Planning Database will help DHS&EM staff better understand areas and critical facilities that are vulnerable to all hazards. Goal 3: The expanded DHS&EM Mitigation Planning Database will help DHS&EM staff develop an inventory of HMP mitigation projects to reduce risks and increase resilience.
Hazards Mitigated	All
Potential Funding Source	Building Resilient Infrastructure and Communities (BRIC) and Hazard Mitigation Grant Program (HMGP)
Project Source	DHS&EM
Cost Considerations	Data acquisitions, operational and maintenance expenses
Environmental Considerations	None
Technical Considerations	Staff with database management capabilities and hazard mitigation program knowledge
Local and Tribal Hazard Mitigation Planning Support	
Description	Background: DHS&EM's Hazard Mitigation Program was initiated in response to Disaster Mitigation Act of 2000 (DMA 2000), which mandates community hazard mitigation planning for FEMA disaster mitigation funding eligibility. The State supports local and tribal hazard mitigation planning efforts with grant funding opportunities and direct assistance. Action: Continue to support local and tribal communities throughout Alaska with hazard mitigation planning grant funding opportunities and direct assistance.

Hazard Mitigation Goal	Goal 1: Hazard mitigation planning will increase awareness about all hazards. Goal 2: Hazard mitigation planning will help the State as well as local and tribal communities identify locations and critical facilities that are vulnerable to all hazards. Goal 3: Hazard Mitigation planning and direct assistance will help local and tribal communities implement projects to reduce risks and increase resilience to all hazards.
Hazards Mitigated	All
Potential Funding Source	BRIC and HMGP
Project Source	DHS&EM
Cost Considerations	Data acquisition, operational and maintenance expenses
Environmental Considerations	None
Technical Considerations	Staff with database management capabilities and hazard mitigation program knowledge

Table 41. Excerpt from Table 6-4 Structure and Infrastructure Actions

Flood Buyout Expansion	
Description	Background: Action: Support community-led efforts to plan for, develop, and launch buyout programs. Consider creating a State-supported GIS mapping to help officials and community members better understand jurisdictional and ownership boundaries, flood vulnerability, infrastructure, and demographics, including social vulnerability. Assist local and tribal communities with developing acquisition and relocation priorities, including the NFIP's RL and SRL structures (Section 5.1.2), vulnerable populations, and additional structures identified as at-risk through other assessments. Additional information: Utilize DHS&EM's Mitigation Planning Database and/or the 2023 SHMP's risk assessment (Section 4.3) to identify communities that have pre-identified critical facilities at risk to flooding and pre-identified flood mitigation projects in their local/tribal HMPs for potential flood buyout projects.
Hazard Mitigation Goal	Goal 3: Flood buyouts and relocations will reduce risk and increase resilience from cryosphere and permafrost degradation, flood and erosion, and severe weather hazards.
Hazards Mitigated	Cryosphere and permafrost degradation, flood and erosion, and severe weather
Potential Funding Source	BRIC, FMA, HMGP, CDBG-DR, and NRCS-EWP
Project Source	FEMA, NOAA, and DCRA
Cost Considerations	Buyouts provide a permanent solution. If a home is eligible for a buyout, the homeowner is offered a pre-disaster fair-market value for the property as determined by a certified appraiser. Buyout offers can be made for structures outside of Special Flood Hazard Areas, depending on the results of cost-benefit analyses; acquisition of structures inside a flood zone is assumed to meet the cost-benefit threshold if the purchase price is $276,000 or less (Pew Trust 2022). Sellers may receive the pre-disaster value of the property. HUD permits its grant funds to be used even if the property was acquired post-disaster. HUD also allows the acquisition of commercial, agricultural, and/or vacant land if the

	buyout/acquisition supports one of the CDBG's national objectives; benefiting persons of low and moderate income; preventing slum and blight; or meeting an urgent community development need (Pew Trust 2022).
Environmental Considerations	Effective buyouts prevent future damage, make people safer, and ideally protect entire neighborhoods or communities. Once bought-out properties become open space, they can provide an added benefit of floodplain and wildland restoration (Pew Trust 2022).
Technical Considerations	Buyouts require an agreement by local government officials, the State, and FEMA, NCRS or HUD. A buyout also requires a certified appraiser.
Statewide Transportation Facilities Comprehensive Dataset Expansion	
Description	Background: In Section 4, estimated values for statewide transportation facilities were not available for vulnerability exposure analysis. These facilities (airports, bridges, ferry terminals, harbors, maintenance facilities, ports, and railroad facilities) are critical facilities and infrastructure for Alaskans. A comprehensive dataset for these facilities is not currently available. Action: Expand the State's transportation facilities dataset to include estimated values for potential losses for future HMP updates. This will enable the State's future risk assessments to be accurate.
Hazard Mitigation Goal	Goal 2: Expanding the transportation facilities dataset will help the State as well as local and tribal communities to identify locations and critical facilities that are vulnerable to all hazards. Goal 3: Expanding the transportation facilities dataset will help the State as well as local and tribal communities implement projects to reduce risks and increase resilience of transportation facilities to all hazards.
Hazards Mitigated	All
Potential Funding Source	State Funds
Project Source	DOT&PF
Cost Considerations	Creating database; compiling datasets from many agencies
Environmental Considerations	None
Technical Considerations	Cooperation among many agencies will be required

Table 42. Excerpt from Table 6-5 Nature-Based Solution Actions

Coastal and Riverbank Stabilization Program	
Description	Background: Traditional engineered hard "gray" shorelines use materials like steel, wood, concrete, or rock with no vegetation and include sloped armoring, vertical armoring, seawalls, and shore stabilization. In most locations in Alaska, these types of projects are necessary. While hard or gray shoreline projects are difficult to modify once completed, they are able to withstand the harsh Alaskan environment where nature-based solutions may not be effective. Action: Prevent further coastal and riverine loss and increase flood storage capacity through nature-based coastal and stream techniques where considered to be effective; otherwise use traditional engineered hard "gray" shoreline use materials that have been proven to withstand the harsh Alaska weather conditions.
Hazard Mitigation Goal	Goal 3: Coastal and riverbank stabilization projects will reduce risks and increase resilience to cryrosphere and permafrost degradation, flood and erosion, tsunami and seiche, severe weather, and high hazard potential dam hazards.
Hazards Mitigated	Cryosphere, permafrost degradation, flood and erosion, tsunami and seiche, severe weather, and high hazard potential dam hazards
Potential Funding Source	NCRF
Project Source	FEMA, EPA, National Parks Service
Cost Considerations	Park and/or community planners, engineers, and scientists evaluate data, design alternatives, and develop detailed engineering. Project manager and construction crew to implement stabilization construction activities.
Environmental Considerations	Projects should be compatible with the natural processes of rivers, climate adaptable, sustainable, aesthetically pleasing, and cost-effective. All environmental laws will need to be met and/or exceeded. Design alternatives will need to be developed to avoid and/or minimize effects to cultural and natural resources.
Technical Considerations	Data collected will need to include the identification of soil type, geology, wetlands, rare plants, historical and cultural features, water levels, as well as terrestrial and aquatic species. Staff with subject matter expertise/experience to conduct assessments; design; public outreach; construction management and construction will be needed.
Wetlands Action Plan Templates	
Description	Background: A Wetlands Action Plan (WAP) is a guide to plan and implement projects and activities to conserve, protect, restore, and manage wetlands. WAPs can be designed to focus on wetlands in a specific watershed or region or target a wetland type or all surface water resources within a watershed. Action: Development a WAP template to assist local and tribal communities in Alaska with the development of a WAP and overall wetland planning. WAP templates will focus on identifying and describing wetland resources, natural conditions, anthropogenic stressors that affect wetlands, wetlands baseline conditions, data gaps, restoration and protection site projects, chronic and cumulative impacts to wetlands reduction strategies, financing options, public outreach and stakeholders strategies, and project implementation as well as monitoring.
Hazard Mitigation Goal	Goal 2: WAPs will help local and tribal communities to identify wetland locations that are vulnerable to multiple hazards, particularly cryosphere, permafrost degradation, floods, erosion, and severe weather.

	Goal 3: Projects and activities identified in WAPs will reduce risks and increase resilience to cryosphere and permafrost degradation, floods, erosion, and severe weather.
Hazards Mitigated	Cryosphere, permafrost degradation, floods, erosion, and severe weather
Potential Funding Source	WPDG
Project Source	EPA, New Mexico, Department of the Environment
Cost Considerations	Materials/handouts, travel time and costs (if necessary), and follow-up
Environmental Considerations	None
Technical Considerations	Staff with subject matter and public information capabilities

Table 43. Excerpt from Table 6-6 Outreach and Awareness

Hazard Mitigation Training	
Description	Background: Action: Expand hazard mitigation training in Alaska. Training can include FEMA-created webinar recordings, online independent study courses and on-demand workshops. Training should focus on creating/updating effective HMPs as well as developing quality HMA grant applications.
Hazard Mitigation Goal	Goal 1: Hazard mitigation training will increase awareness around all hazards.
Hazards Mitigated	All hazards
Potential Funding Source	FEMA, Technical Assistance
Project Source	DHS&EM, FEMA
Cost Considerations	Materials/handouts, travel time and costs, delivering workshop, and/or follow-up
Environmental Considerations	None
Technical Considerations	Staff with subject matter expertise and public information capabilities
Rural Resilience Workshop Expansion	
Description	Background: DHS&EM conducts workshops to bring community leaders/emergency managers in various regions together to discuss regional disaster planning and response. Workshops focus on community resilience, incident response, emergency management, and more. Action: Continue to expand the size and scope of DHS&EM's Rural Resilience Workshops.
Hazard Mitigation Goal	Goal 1: Rural Resilience Workshops will increase awareness about all hazards.
Hazards Mitigated	All hazards
Potential Funding Source	State Homeland Security Program
Project Source	DHS&EM
Cost Considerations	Materials/handouts, travel time and costs, delivering workshop, and follow-up

Environmental Considerations	None
Technical Considerations	Staff with subject matter expertise and public information capabilities
Tsunami Operations Workshop Expansion	
Description	Background: DHS&EM conducts workshops to bring community leaders/emergency managers in various regions together to discuss regional disaster planning and response. Workshops focus on community resilience, incident response, emergency management, and more. Action: Continue to expand the size and scope of NTHMP's Tsumani Operations Workshop.
Hazard Mitigation Goal	Goal 1: Tsunami Operations Workshops will increase awareness of tsunami hazards.
Hazards Mitigated	Tsunami
Potential Funding Source	National Weather Service Financial Assistance
Project Source	DHS&EM, NTHMP
Cost Considerations	Materials/handouts, travel time and costs, delivering workshop, and follow-up
Environmental Considerations	None
Technical Considerations	Staff with subject matter expertise and public information capabilities
Continuation of Building Safety Month	
Description	Background: Governor Mike Dunleavy has designated May as Building Safety Month in Alaska. The Building Safety Month campaign has been presented by the International Code Council for over 40 years. The international campaign raises awareness about the critical role of building codes, including safe and sustainable construction, fire and building safety, disaster mitigation, energy conservation, aa well as safe and abundant water supply. Action: Continue to observe Building Safety Month in Alaska.
Hazard Mitigation Goal	Goal 1: Observing Building Safety Month will increase awareness around earthquake, ground failure, severe weather, wildland and community fire hazards.
Hazards Mitigated	Earthquake, ground failure, severe weather, as well as wildland and community fires
Potential Funding Source	State funds
Project Source	Alaska Department of Public Safety and the Alaska Fire Marshal
Cost Considerations	Materials/handouts, travel time and costs (if necessary), and follow-up
Environmental Considerations	None
Technical Considerations	Staff with subject matter expertise and public information capabilities
National Flood Insurance Program Expansion	
Description	Background: DCRA staff promote the CRS and help communities join the program by explaining the benefits of the CRS to elected officials and other local decision makers so they will encourage their staff to devote the resources needed to join the CRS or

	improve their classification. The DCRA improves local programs by offering training, templates, models, and examples to help communities improve their floodplain management activities to improve their CRS standing.
Hazard Mitigation Goal	Flood, erosion, and severe weather
Hazards Mitigated	Flood, erosion, and severe weather
Potential Funding Source	State funds
Project Source	DCCED/DCRA
Cost Considerations	Materials/handouts, travel time and costs (if necessary), and follow-up
Environmental Considerations	None
Technical Considerations	Staff with subject matter expertise and public information capabilities

2.6.3 Local and Tribal Hazard Mitigation Plans

The 49 local and tribal HMPs identify 16 hazards that are of significant risk, and specifically hazardous to the assessment area:

- Changes in Cryosphere (identified in 4 plans)
- Wildland Fires (identified in 41 plans)
- Flooding (identified in 47 plans)
- Erosion (identified in 40 plans)
- Severe Weather (identified in 49 plans)
- Ground Failure (Land Subsidence, Landslide) (identified in 36 plans)
- Permafrost Degradation (identified in 19 plans)
- Climate Change (identified in 21 plans)
- Earthquakes (identified in 44 plans)
- Volcanoes (identified in 6 plans)
- Tsunamis (identified in 5 plans)
- Other:
    - Economic (identified in 1 plan)
    - Hazardous Materials Event – Ammonia (identified in 1 plan)
    - Infectious Disease (identified in 1 plan)
    - Technological (identified in 1 plan)
    - Radon and Naturally Occurring Uranium (identified in 3 plans)

The following tables provide HMP plan statuses. The State of Alaska, Department of Military and Veteran's Affairs, Division of Homeland Security and Emergency Management (DHS&EM) provides technical assistance and grant funding through BRIC (historically), and HMGP to develop HMPs. Several HMPs are identified for update through DHS&EM.

Bering Straits Regional Education Attendance Area (Nome Census Area) Plans

Of 16 communities, only Stebbins has an expired HMP.

Table 44. HMP Status for Bering Straits REAA Communities

Community	Active HMP?	Most Recent HMP	DHS&EM HMP in Progress
Brevig Mission	Yes	10/17/2023	
Diomede	Yes	4/1/2023	
Elim	Yes	10/17/2023	
Gambell	Yes	10/16/2023	
Golovin	Yes	6/27/2023	
Koyuk	Yes	10/16/2023	
Nome*	Yes/No	2/20/2025	
Savoonga	Yes	6/14/2024	
Shaktoolik	Yes	2/27/2023	
Shishmaref	Yes	1/9/2023	
St. Michael	Yes	7/28/2023	
Stebbins	No	12/3/2013	funding in progress
Teller	Yes	8/11/2023	
Unalakleet	Yes	10/13/2023	
Wales	Yes	3/27/2025	
White Mountain	Yes	7/14/2023	

*Nome Area Tribes (Nome Eskimo Community, King Island Native Community, Native Village of Solomon, and Native Village of Council) have approved HMPs as of 2025. The City of Nome is in the process of updating their expired HMP.

Kashunamiut Regional Education Attendance Area (Kusilvak Census Area) Plans

Table 45. HMP Status for Kashanamiut REAA Communities

Community	Active HMP?	Most Recent HMP	DHS&EM in Progress
Chevak	No	10/5/2018	funding in progress

Lower Yukon Regional Education Attendance Area (Kusilvak Census Area) Plans

Of 10 communities, four have active HMPs. Six communities have expired HMPs.

Table 46. HMP Status for Lower Yukon REAA Communities

Community	Active HMP?	Most Recent HMP	DHS&EM in Progress
Alakanuk	Yes	10/19/2021	
Emmonak	Yes	3/15/2023	
Hooper Bay	Yes	2/3/2025	
Kotlik	No	8/30/2019	in progress at ANTHC
Marshall	No	11/6/2014	
Mountain Village	Yes	4/14/2023	
Nunam Iqua	No	9/19/2019	funding in progress
Pilot Station	No	1/24/2019	
Russian Mission	No	10/18/2013	
Scammon Bay	No	11/1/2013	funding in progress

Lower Kuskokwim and Yupiit Regional Education Attendance Areas (Bethel Census Area) Plans

Of 25 communities, nine have active HMPs. Sixteen communities have expired HMPs.

Table 47. HMP Status for Bethel Census Area Communities

Community	Active HMP?	Most Recent HMP	DHS&EM in Progress
Akiachak	No	9/6/2013	Engage but no
Akiak	Yes	3/23/2023	
Atmautluak	No	11/3/2015	
Bethel	No	5/7/2018	in progress
Chefornak	Yes	3/22/2023	
Eek	No	9/12/2014	
Goodnews Bay	No	6/1/2018	
Kasigluk	No	NO PLAN	
Kipnuk	Yes	4/21/2025	
Kongignak	Yes	9/26/2022	
Kwethluk	No	2/23/2010	DHSEM Trying to engage but no commitment yet from jurisdiction
Kwigillingok	Yes	8/24/2022	
Mekoryuk	No	11/5/2015	
Napakiak	Yes	2/24/2021	in progress
Napaskiak	No	12/30/2014	
Newtok	Yes	2/9/2021	
Nightmute	No	12/5/2015	

Community	Active HMP?	Most Recent HMP	DHS&EM in Progress
Nunapitchuk	Yes	7/24/2023	
Oscarville	No	NO PLAN	
Platinum	No	NO PLAN	
Quinhagak	No	5/11/2020	in progress at ANTHC
Toksook Bay	No	10/15/2014	funding in progress
Tuluksak	Yes	8/8/2023	Engage but no
Tuntutuliak	No	NO PLAN	
Tununak	No	11/15/2015	

Pribilof Islands Regional Education Attendance Area (Aleutians West Census Area)

Both communities have active HMPs.

Table 48. HMP Status for Pribilof Islands REAA Communities

Community	Active HMP?	Most Recent HMP	DHS&EM in Progress
St George Island	Yes	1/7/2022	
St Paul Island	Yes	10/12/2022	

2.6.4 Hazards

Below is a list of hazards identified by communities in the SHMP 2023, including their probability and magnitude/severity. Note: Changes in Cryosphere (sea ice, permafrost, avalanche, glacier) is a new hazard category in the State of Alaska's HMP that was developed in 2023. Most of the coastal communities impacted by Typhoon Merbok are vulnerable to Changes in Cryosphere and it is anticipated that their future plan updates will align to the State HMP in terms of hazard categories.

HUD-Identified MID

Bering Strait REAA

	Changes in Cryosphere		Fire		Flood		Erosion		Ground Failure (Land Subsidence)		Permafrost		Severe Weather		Climate Change		Earthquakes		Volcanoes		Tsunami		Radon / Naturally Occurring Uranium	
Community	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity
Brevig Mission			1	1	2	1	2	2	3	2	x		3	2	x		4	1	0	0	0	0		
Diomede			0	0	3	2	3	2	3	2	x		4	2	x		1	1	1	1	0	0		
Elim			1	1	2	1	3	2	3	2	x		3	2	x		4	1	0	0	0	0		
Gambell			1	1	4	1	1	2	2	1	x		3	2	x		1	1	0	0	0	0		
Golovin			3	1	3	2	3	2	3	2	x		3	2			2	1	0	0	0	0	x	
Koyuk			1	2	4	2	3	2	3	2	x		3	2	x		1	1	0	0	0	0		
Nome	x		2	3	3	3	3	3	0	0			3	2	x		2	1	0	0	0	0	x	
Savoonga			1	1	1	1	1	2	3	1			3	2			1	1	0	0	0	0		
Shaktoolik			1	3	4	3	4	3	0	0	x		4	3	x		1	2	0	0	0	0		
Shishmaref			1	3	3	3	3	4	0	0			4	3	x		2	2	0	0	0	0		
St. Michael			0	0	2	1	4	2	4	1	x		3	2	x		0	0	0	0	0	0		
Stebbins			1	1	4	1	3	2	4	2			3	2			2	2	0	0	0	0		
Teller			1	1	2	3	3	2	3	2	x		3	2	x		1	1	0	0	0	0		
Unalakleet			3	3	3	3	3	3	0	0	x		3	2	x		2	2	0	0	0	0		
Wales	4	3	1	1	3	3	3	3	2	1	4	3	4	3	x		3	1	-	-	2	3	4	2
White Mountain			2	1	2	1	0	0	2	2			3	2	x		1	1	0	0	0	0		

Hazardous materials event – ammonia; infectious disease; economic; and technological were not identified as hazards in these communities.

Kashunamiut REAA

	Changes in Cryosphere		Fire		Flood		Erosion		Ground Failure (Land Subsidence)		Permafrost		Severe Weather		Climate Change		Earthquakes		Volcanoes		Tsunami	
Community	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity
Chevak			1	4	2	2	4	2	4	2			4	2			0	0	0	0	0	0

Radon/naturally occurring uranium; hazardous materials event – ammonia; infectious disease; economic; and technological were not identified as hazards in this community.

Lower Yukon REAA

	Changes in Cryosphere		Fire		Flood		Erosion		Ground Failure (Land Subsidence)		Permafrost		Severe Weather		Climate Change		Earthquakes		Volcanoes		Tsunami		Economic		Technological	
Community	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity
Alakanuk	x		1	1	3	3	4	3	2	1			3	2			2	1	0	0	0	0				
Emmonak			2	1	4	3	4	3	3	1	x		3	1	x		1	1	0	0	0	0				
Hooper Bay			2	2	2	2	2	2	0	0			3	2			1	1	0	0	0	0				
Kotlik			1	4	4	3	4	3	3	4	x		3	1			1	1	0	0	1	2				
Marshall			3	2	1	1	3	2	3	2			4	1			1	1	0	0	0	0				
Mountain Village			1	1	1	1	3	2	3	1			3	2			1	1	0	0	0	0				
Nunam Iqua			3	3	4	4	4	1	3	3			4	4			1	2	2	1	0	0	x		x	
Pilot Station			2	1	3	2	3	2	0	0	x		3	2	x		2	1	0	0	0	0				
Russian Mission			3	1	3	2	3	1	4	2			3	2			2	1	0	0	0	0				
Scammon Bay			1	1	1	1	3	2	4	1			3	1			1	1	0	0	0	0				

Radon/naturally occurring uranium; hazardous materials event – ammonia; and infectious disease were not identified as hazards in these communities.

State-Identified MID

Lower Kuskokwim REAA

	Changes in Cryosphere		Fire		Flood		Erosion		Ground Failure (Land Subsidence)		Permafrost		Severe Weather		Climate Change		Earthquakes		Volcanoes		Tsunami	
Community	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity
Mekoryuk			0	0	2	1	2	3	3	2			4	1			1	2	0	0	0	0
Atmautluak			1	1	2	1	2	1	3	2			3	2			2	2	0	0	0	0
Bethel			3	3	2	2	2	2	4	3	x		3	2	x		1	1	0	0	0	0
Chefornak			0	0	1	2	4	3	1	1	x		4	2	x		1	1	0	0	0	0
Eek			1	1	0	0	2	2	3	2			3	2			1	1	0	0	0	0
Goodnews Bay			1	1	2	2	2	2	1	2	1	2	4	2			1	1				
Kasigluk					x	x	x	x			x	x										
Kipnuk			1	1	2	2	4	3	4	2			3	2	x		1	1	0	0	0	0
Kongignak			2	3	3	3	4	3	2	4	x		4	2	x		1	1	1	1	0	0
Kwethluk			3	3	4	3	4	3	3	2			4	2			3	2	0	0	0	0
Kwigillingok			0	0	3	3	3	3	3	2			3	2			1	1	1	1	0	0
Napakiak			0	0	4	3	4	4	4	4	x		3	2			0	0	0	0	0	0
Napaskiak	3	2	4	2	3	3	4	3	3	2	3	2	4	2			2	3				
Nightmute	3	2			3	3			3	2	3	2	4	2			2	1				
Nunapitchuk			3	3	3	1	4	4	4	3	x		4	2	x		0	0	0	0	0	0
Oscarville					x	x	x	x														
Platinum					x	x	x	x														
Quinhagak	x		1	1	2	3	3	2	0	0			4	2			0	0	0	0	0	0
Toksook Bay			0	0	1	1	3	1	3	2			4	2			1	3	0	0	0	0
Tuntutuliak			1	2	3	3	3	3	3	2			4	2			2	1	0	0	0	0
Tununak			0	0	2	3	2	3	3	3			3	2			1	1	0	0	0	0

Radon/naturally occurring uranium; hazardous materials event – ammonia, infectious disease; economic; and technological were not identified as hazards in this community.

Yupiit REAA (Bethel Census Area)

	Changes in Cryosphere		Fire		Flood		Erosion		Ground Failure (Land Subsidence)		Permafrost		Severe Weather		Climate Change		Earthquakes		Volcanoes		Tsunami	
Community	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity
Akiachak			1	1	4	2	3	2	3	2			3	2			1	1	0	0	0	0
Akiak			1	1	4	4	4	4	0	0	x		3	2	x		3	1	0	0	0	0
Tuluksak			1	1	4	2	3	4	4	1			3	1			2	1	0	0	0	0

Radon/naturally occurring uranium; *hazardous materials event – ammonia; infectious disease; economic; and technological were not identified as hazards in these communities.*

Pribilof Islands REAA

	Changes in Cryosphere		Fire		Flood		Erosion		Ground Failure (Land Subsidence)		Permafrost		Severe Weather		Climate Change		Earthquakes		Volcanoes		Tsunami		Hazardous Materials Event - Ammonia		Infectious Disease	
Community	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity	Probability	Magnitude/Severity
St George Island			0	0	1	1	1	2	2	1			4	2			2	2	0	0	1	3				
St Paul Island			1	2	0	0	3	2	0	0			4	3	x		1	2	0	0	1	3	x		x	

Radon/naturally occurring uranium; e*conomic; and technological were not identified as hazards in these communities.*

Changes in Cryosphere / Permafrost Degradation

Hazard Summary

Cryosphere refers to the portions of Earth's surface and subsurface where water is in solid form, including ice, snow, glacial ice, and permafrost. Hazards of the cryosphere can be subdivided into four major groups: Glaciers, Permafrost, Sea ice, Snow avalanches. Permafrost is named as the greatest cryosphere hazard broadly affecting communities impacted by Typhoon Merbok. Many also experience sea ice hazards.

Permafrost hazards are caused by the effects of changing perennially frozen soil, rock, or sediment (known as permafrost) and the landscape processes that result from extreme seasonal freezing and thawing. Permafrost is found in nearly 85% of Alaska (State HMP 2023). In the U.S., the presence of widespread permafrost results in classes of geologic hazards that are largely unique to Alaska. Permafrost is structurally important to the soils of Alaska, and the thawing of permafrost causes landslides, ground subsidence, and erosion as well as lake disappearances, new lake development, and saltwater encroachment into aquifers and surface waters. Usteq, from the Yup'ik word meaning "surface caves in," is a catastrophic form of permafrost thaw collapse that occurs when frozen ground disintegrates under the compounding influences of thawing permafrost, flooding, and erosion. Permafrost loss, due to warming climate, can impact infrastructure installed onto or under the permafrost, leading to disruption in services, additional maintenance and engineering retrofit costs. Reduction in permafrost can also lead to increased or altered wildland fire risk (State HMP 2023).

Sea ice is frozen ocean water that forms, grows, and melts in the ocean. Sea ice grows during the winter and melts during the summer, but some sea ice remains all year in certain regions. The risks associated with ice processes and human activities are greatest in the Arctic and sub-Arctic regions because of the prevalence of sea ice in those high latitudes. Hazards from sea ice include threats to shipping from running into ice; equipment or personnel breaking through ice when it is used as a seasonal platform for development activities; ice push (ivu) and gouging of the land or seafloor; and slush ice buildup that can clog intake valves. Lack of sea ice during fall and winter increases the risk of coastal flooding and erosion from storms in northern and western Alaska because the ice is not there to protect the shore (State HMP 2023).

Impacts

The direct impacts of cryosphere hazards include damages to personal and public infrastructure, increases in maintenance costs for said infrastructure, and disrupted access to subsistence areas and resources. Indirect and cascading impacts include land subsidence, ground failure, exacerbated erosion and flooding, slope instability, and other ecosystem impacts. Damage from ground failure can require anywhere from minor to major damage, possible having a massive economic impact with the possible destruction of critical community infrastructure such as schools, airports, and medical facilities (St. Michael HMP 2025).

Bering Straits REAA Communities: Permafrost degradation is leading to subsidence in communities across the Bering Straits Region, with some communities in a zone of continuous permafrost and others in a zone of discontinuous permafrost. Permafrost melting has cascading impacts, such as the acceleration of erosion. Wales reports high permafrost risk in their 2025 HMP. Traditional subsistence areas and trails are experiencing subsidence, and permafrost thaw is leading to foundation sinking of

homes in Wales (Wales HMP 2025). Saint Michael reported impacts from permafrost degradation, including subsidence under roads and homes. The entire community lost water and sewer service for over a month in January of 2017 when sewer lines froze; the lines were thought to be damaged when melting permafrost shifted building foundations (St. Michael HMP 2023). In Unalakleet, annually recurring ground failure/ice melt damages roads leading to the school, residence, and the airport (Unalakleet HMP 2023).

Kashunamiut REAA Communities: Chevak is in an area of discontinuous permafrost with an active layer approximately 18 inches deep. Chevak is experiencing land subsidence as a result of permafrost degradation. Buildings and water lines in Chevak are typically elevated to reduce the risk of sinking infrastructure, however power poles and sanitation lines are still vulnerable to permafrost degradation (Chevak HMP 2023).

Lower Yukon REAA Communities: Cryosphere hazards including permafrost degradation and its cascading impacts are felt by Lower Yukon REAA communities. Alakanuk, for example, experiences disruptions to its existing foundations, gravel pads, and pilings from permafrost degradation. Impacts associated with thawing of the active layer of permafrost include surface subsidence and damages to roads, buildings, and other infrastructure (Alakanuk HMP 2021). In Kotlik, infrastructure stability is a concern due to permafrost degradation. Other cryosphere hazards include sea ice, which is pushed inland during fall and winter storms, threatening community infrastructure (Kotlik HMP 2019). In Pilot Station, permafrost thawing periodically causes houses to shift in the new section of the City and roads to settle unevenly. Permafrost in Pilot Station and other communities restricts the use of the ground surface, affects the location and design of roads and other infrastructure, and requires careful planning and design (Pilot Station HMP 2018).

Bethel Census Area Communities: Communities in the Bethel Census area are in discontinuous, sporadic, or isolated permafrost zones. The land in and around Bethel is nearly all “warm” permafrost, averaging 31.2° per City grant documents. As the active layer increases each year, permafrost continues to thaw, making buildings less stable. Financial resources are needed to haul in fill and raise houses as well as drive pilings for new construction deeper, increasing living costs. Melting permafrost has impacted a local farmer in Bethel who lost over 2,000 pounds of vegetables due to his warming root cellar. He resorted to adding an electric cooler to his root cellar (Bethel HMP 2017). Similar impacts are felt in communities across the region. In 2016, an *usteq* – a catastrophic land collapse caused by the melting of permafrost -- claimed at least 40 feet of ground between Newtok and the Ninglick River, with blocks of tundra the size of minivans slumping and being carried away by floodwaters (State HMP 2023).

Pribilof Islands REAA Communities: Saint Paul does not profile cryosphere, permafrost degradation or associated ground failure in their 2022 HMP, however they cite the shift in sea ice extent as a contributor to flooding and erosion (Saint Paul HMP, 2022). Saint George has no permafrost according to their 2015 HMP, however recent seasonal ice retreat has shown important impacts on the timing of phytoplankton blooms across the Arctic. Indigenous communities depend on fish, marine mammals, and other wildlife. Reductions in the extent and thickness of sea ice makes hunting more difficult and dangerous (Saint George HMP 2015).

Changing Conditions

Changes in the cryosphere such as warmer temperatures and greater precipitation are exasperating current continued threats to communities (Alakanuk HMP 2021). Permafrost is at an increased risk of thawing as a result of climate change. The potential increase in snow depth predicted by the majority of climate models may lead to diminished permafrost stability, as snow insulates permafrost from low winter temperatures. Even a small warming of permafrost can cause a reduction in its bearing capacity, impacting its ability to support structures (State HMP 2023).

Flooding

Hazard Summary

Flooding in Alaska is driven by riverine overflows, coastal storm surges, ice jams, and snowmelt. In western and southwestern Alaska—particularly the Yukon-Kuskokwim Delta and Bering Strait regions—many communities lie in low-lying areas along rivers or coastlines with little elevation buffer. The flood season typically peaks during spring breakup (due to ice jams) and during fall storms (due to coastal surges)(SHMP 2023). Approximately 6,600 miles of Alaska's coastline and many low-lying areas along the state's rivers are subject to severe flooding and erosion. In 2019, the University of Alaska, Fairbanks (UAF), Institute of Northern Engineering, the U.S. Army Corps of Engineers Alaska District (USACE), and the USACE Cold Regions Research and Engineering Laboratory completed the Statewide Threat Assessment, which assessed threats to public infrastructure associated with erosion, flooding, and thawing permafrost in 187 rural Alaska communities, most of which are coastal communities (UAF et al. 2019). Of the 187 communities assessed, 144 were found to be moderately or highly threatened by infrastructure damage from one or more of the environmental threats of erosion, flooding, or thawing permafrost, with 66 communities found to be moderately or highly threated by infrastructure damage from flooding and/or erosion (State of Alaska HMP 2023). Inadequate or aging flood control infrastructure, combined with increasingly severe storms and precipitation linked to climate change, increases vulnerability across the region *(SHMP 2023, Ch. 4; Denali Commission 2019)*. Flooding regularly threatens homes, roads, fuel storage, public buildings, and community access *(SHMP 2023)*.

Documented Alaska flood events from 1890 to 2023 are documented in the Alaska Flood Database. The Alaska Statewide Threat Assessment evaluated 187 communities that are at risk of flooding. The communities with the greatest flood risk are in group 1; communities with a moderate threat are in group 2; and the communities with lower risk to flooding are in group 3 (Alaska Statewide Threat Assessment).

Table 49. Flood risk levels for communities in the region

Community	Region	Flood Risk
Brevig Mission	Bering Strait REAA	2
Diomede	Bering Strait REAA	2
Elim	Bering Strait REAA	1
Gambell	Bering Strait REAA	1
Golovin	Bering Strait REAA	1
Koyuk	Bering Strait REAA	2
Nome	Bering Strait REAA	1

Community	Region	Flood Risk
Savoonga	Bering Strait REAA	1
Shaktoolik	Bering Strait REAA	1
Shishmaref	Bering Strait REAA	1
St. Michael	Bering Strait REAA	3
Stebbins	Bering Strait REAA	1
Teller	Bering Strait REAA	1
Unalakleet	Bering Strait REAA	1
Wales	Bering Strait REAA	3
White Mountain	Bering Strait REAA	3
Alakanuk	Lower Yukon REAA	1
Emmonak	Lower Yukon REAA	1
Kotlik	Lower Yukon REAA	1
Marshall	Lower Yukon REAA	2
Mountain Village	Lower Yukon REAA	3
Nunan Iqua	Lower Yukon REAA	3
Pilot Station	Lower Yukon REAA	3
Russian Mission	Lower Yukon REAA	3
Scammon Bay	Lower Yukon REAA	2
Hooper Bay	Lower Yukon REAA	2
Chevak	Kashunamiut	3
Tununak	Lower Kuskokwim REAA	2
Toksook Bay	Lower Kuskokwim REAA	2
Mekoryuk	Lower Kuskokwim REAA	2
Nightmute	Lower Kuskokwim REAA	2
Bethel	Lower Kuskokwim REAA	1
Chefornak	Lower Kuskokwim REAA	2
Eek	Lower Kuskokwim REAA	3
Goodnews Bay	Lower Kuskokwim REAA	3
Kasigluk	Lower Kuskokwim REAA	3
Kipnuk	Lower Kuskokwim REAA	2
Kongiganak	Lower Kuskokwim REAA	2
Kwethluk	Lower Kuskokwim REAA	1
Kwigillingok	Lower Kuskokwim REAA	3
Napakiak	Lower Kuskokwim REAA	1
Napaskiak	Lower Kuskokwim REAA	1
Nunapitchuk	Lower Kuskokwim REAA	3
Oscarville	Lower Kuskokwim REAA	3
Platinum	Lower Kuskokwim REAA	3
Quinhagak	Lower Kuskokwim REAA	2
Tuluksak	Yupiit REAA	1

Community	Region	Flood Risk
Tuntutuliak	Lower Kuskokwim REAA	1
St George Island	Pribilof Islands REAA	2
St Paul Island	Pribilof Islands REAA	3
Akiachak	Yupiit REAA	1
Akiak	Yupiit REAA	1
Atmautluak	Lower Kuskokwim REAA	3
Pitka's Point	Lower Yukon REAA	2
Newtok/Mertarvik	Lower Kuskokwim REAA	2

Flooding events include rainfall-runoff, snowmelt, ice jam floods, and storm surge. Storm surge is the most common cause of coastal flooding in coastal Alaska (Denali Commission 2019).

Impacts

Impacts from flooding identified in the State HMP include:

- High water flow storm surge floods scour (erode) coastal embankments, coastal protection barriers, and result in infrastructure and residential property losses. Additional impacts can include roadway embankment collapse, foundations exposure, and damaging impacts.
- Damage to structures, roads, bridges, culverts, and other features from high-velocity flow and debris carried by floodwaters. Such debris may also accumulate on bridge piers and in culverts, decreasing water conveyance and increasing loads which may cause feature overtopping or backwater damages.
- Damage to water, power, and communications infrastructure from inundation.
- Rescues and injuries from entrapment in flood waters and loss of transportation routes.
- Sewage, hazardous or toxic materials release, materials transport from wastewater treatment plant or sewage lagoon inundation, storage tank damages, and/or severed pipeline damages, which can be catastrophic to rural remote communities.
- Floods also result in economic losses through business and government facility closure; utilities such as energy generation, communications, potable water, and wastewater; and transportation service disruptions.
- Floods result in excessive expenditures for emergency response and generally disrupt the community's normal function and quality of life.

Bering Strait REAA: Communities such as Shishmaref, Golovin, and Unalakleet are severely flood-prone, especially during coastal storms (SHMP 2023; Risk MAP). Shaktoolik and Stebbins also report frequent flood impacts from storm surge. Riverine and coastal floods are often exacerbated by permafrost thaw and lack of drainage infrastructure (Denali Commission 2019). Ice jams are a major spring hazard in this region.

Lower Yukon REAA: Frequent riverine flooding and ice jams along the Yukon River affect Alakanuk, Emmonak, Mountain Village, Kotlik, and Pilot Station. Flooding damages fuel storage, homes, roads, and runways, and disrupts subsistence activities (SHMP 2023; Denali Commission 2019). Community isolation during flood events is common, especially during high water years.

Lower Kuskokwim REAA: Communities such as Bethel, Napakiak, and Newtok experience chronic flooding due to river overflows, coastal surges, and increasingly severe storms. Napakiak is actively relocating due to combined flooding and erosion threats (SHMP 2023). Newtok is relocating to Mertarvik in response to long-term flooding, thawing, and erosion (Denali Commission 2019; ANTHC 2019). Other villages such as Chefornak and Quinhagak face significant flooding, particularly as permafrost loss impairs drainage.

Yupiit REAA: Akiachak and Akiak experience regular spring breakup flooding along the Kuskokwim River (SHMP 2023). Floods have damaged roads, schools, and housing. In some cases, seasonal flooding results in community-wide evacuations or prolonged loss of infrastructure access.

Pribilof Islands REAA: Flooding is historically rare, but St. Paul and St. George Islands are increasingly affected by coastal inundation and wave overtopping during late-season Bering Sea storms *(SHMP 2023; NOAA 2020)*. Higher sea levels and reduced sea ice coverage may worsen the trend.

Kashunamiut REAA: Chevak, located near the Kashunuk River, is vulnerable to spring breakup flooding and localized overbank events. Community infrastructure including schools and water treatment facilities are at risk during seasonal flood events (SHMP 2023).

Mitigation Efforts

Flood mitigation across these regions involves relocation planning, engineered infrastructure, mapping, and community preparedness:

- Newtok's relocation to Mertarvik is a nationally recognized example of managed retreat from flooding and erosion, supported by FEMA, the Denali Commission, and USDA (Denali Commission 2019; Newtok Planning Group).
- Napakiak is pursuing relocation and elevation of key facilities due to repeat flooding and erosion (SHMP 2023).
- Unalakleet, Bethel, and Quinhagak are participating in FEMA's Risk MAP program, receiving updated flood maps and technical support (FEMA Risk MAP).
- Floodplain management ordinances are lacking in many communities due to limited land ownership, staff, and governance capacity (SHMP 2023).
- Some communities have elevated schools, fuel tanks, or airstrips through Hazard Mitigation Grant Program (HMGP) or Pre-Disaster Mitigation (PDM) funding (SHMP 2023).

Despite these efforts, many communities lack funding and technical capacity to implement full-scale mitigation strategies. Small population sizes and high costs make proactive planning difficult.

Changing Conditions

Climactic changes may be altering historic patterns of rainfall, snowmelt, and thermal ice breakup. The 2019 Statewide Threat Assessment found that "for snowmelt-dominated systems, the maximum spring streamflow is increasing. For glacial systems, streamflow is declining in spring, in summer, and annually. Across many river systems in Alaska, the winter baseflow was observed to be increasing. Thus, while the probability of future flood events (and hence the level of threat to infrastructure) are commonly predicted based upon the frequency of past flood events, dynamic climatic trends can impart uncertainty into those predictions" (Denali Commission, 2019).

Expected future trends include:

- More frequent and intense coastal storms—especially as sea ice diminishes earlier in the fall (SHMP 2023; NOAA 2020).
- Higher spring river flows, increased precipitation, and earlier snowmelt (SHMP 2023).
- Thawing permafrost, which impairs natural drainage and increases surface pooling and infrastructure vulnerability (Denali Commission 2019; SHMP 2023).
- Sea level rise, particularly concerning in low-elevation coastal zones. Sea level rise is variable by region.

Projections show an upward trend in both frequency and severity of flooding in western and southwestern Alaska. Several REAA regions—particularly the Yukon-Kuskokwim Delta—are likely to remain among the most flood-vulnerable areas in the state.

Erosion

Hazard Summary

Alaska experiences erosion from storm surge; coastal ice run-up; coastal wind scour along the shoreline; and riverine high water flow scour along the area's rivers, streams, and creek embankments; as well as damages from coastal or riverine ice flows, wind, surface runoff, and boat traffic wakes (SHMP 2023). Erosion in Alaska refers to the gradual removal of soil, sediment, or rock from coastal shorelines, riverbanks, and other landforms, often accelerated by wave action, thawing permafrost, storm surge, and human activities. Coastal erosion is especially severe in western and northern Alaska, where low-lying villages on barrier islands and river deltas face rapid shoreline retreat. Erosion threatens homes, infrastructure, and cultural sites, and is a primary driver for community relocations in the state *(SHMP 2023; Denali Commission 2019)*. Loss of protective sea ice and changes in storm patterns have intensified erosion rates in many communities *(NOAA 2020)*.

Impacts

Impacts from erosion identified in the SHMP include:

- Loss of land area: Erosion leads to the gradual loss of valuable land along coastlines and riverbanks, reducing the space available for housing, infrastructure, and subsistence activities.
- Damage to infrastructure: Roads, airstrips, fuel storage tanks, water and wastewater systems, schools, and community buildings located near shorelines or riverbanks are vulnerable to erosion damage or collapse.
- Threat to housing and public safety: Erosion can undermine homes and community facilities, resulting in unsafe living conditions and, in extreme cases, necessitating evacuation or relocation.
- Disruption of transportation and access: Erosion can destroy or compromise critical access routes such as roads and airports, isolating communities and delaying emergency response.
- Environmental impacts: Loss of shoreline vegetation and habitat disruption for fish, wildlife, and migratory birds can occur, impacting subsistence resources and biodiversity.
- Cultural and archaeological site loss: Erosion threatens culturally significant sites, including burial grounds, historic village locations, and archaeological resources important to Alaska Native communities.

- Economic impacts: Property damage, loss of land, and relocation costs impose heavy financial burdens on small, rural communities and the state.
- Increased vulnerability to flooding and storm surge: Erosion removes natural protective barriers, increasing the severity and frequency of flooding events.

Bering Straits REAA Communities: Communities such as Shishmaref, Wales, and Brevig Mission experience some of the highest coastal erosion rates in Alaska, with shorelines retreating several feet per year (SHMP 2023). Shishmaref has been repeatedly inundated by storm surge and erosion, leading to long-term relocation planning (Denali Commission 2019). Barrier islands supporting Gambell and Savoonga also face significant erosion and storm damage risks.

Kashunamiut REAA Communities: Chevak has experienced erosion along the Kashunuk River banks, threatening access and utilities (SHMP 2023).

Lower Yukon REAA Communities: Erosion along riverbanks and coastal areas impacts communities like Emmonak, Alakanuk, and Mountain Village. Ice-rich permafrost banks erode rapidly during spring thaw, threatening subsistence fishing camps and local infrastructure (SHMP 2023).

Pribilof Islands REAA Communities: Erosion is less prominent, but St. Paul Island has localized issues with shoreline loss affecting infrastructure and cultural sites.

Yupiit REAA: Akiachak and Tuluksak face shoreline retreat and riverbank erosion that threaten roads and village sites (SHMP 2023).

Mitigation Efforts

Many communities are investing in shoreline stabilization projects such as seawalls, riprap, and revetments where feasible (SHMP 2023). Managed retreat and community relocation efforts are underway in severely affected villages, notably Newtok and Shishmaref (Denali Commission 2019). The state and federal partners are expanding coastal monitoring and erosion mapping programs to better understand rates and drivers (NOAA 2020). There is an ongoing need for increased technical assistance and funding to support erosion control measures in small, rural communities (SHMP 2023).

Changing conditions

Erosion is exacerbated by:

- Loss of sea ice, which normally buffers wave energy during fall and winter storms (NOAA 2020).
- Rising sea levels increasing baseline water levels and storm surge impacts (SHMP 2023).
- Thawing permafrost, reducing soil cohesion and accelerating shoreline collapse (Denali Commission 2019).
- Increased frequency and intensity of coastal storms (SHMP 2023).

These conditions are projected to accelerate erosion rates in most coastal and riverine communities, increasing the urgency for mitigation, relocation, and adaptation efforts over the coming decades.

Severe Weather

Hazard Summary

Winter storms, heavy or freezing rain, thunderstorms, typhoon remnants, and subsequent secondary hazards such as riverine or coastal storm surge floods, landslides, snow, wind, etc. all impact Alaska (State of Alaska HMP 2023). These events can cause widespread damage to infrastructure, disrupt

transportation and utilities, threaten public safety, and impact community operations. Severe weather is particularly challenging due to Alaska's vast geography, limited road networks, and remote rural villages. Coastal storms can combine severe winds with storm surge and flooding, compounding impacts (SHMP 2023).

Impacts

Impacts from severe weather identified in the SHMP include:

- Property damage from high winds, including damage to roofs, windows, and power lines.
- Transportation disruptions due to snow and ice accumulation, affecting road, air, and marine travel.
- Utility outages from downed power lines and infrastructure damage.
- Threats to public safety, especially for vulnerable populations during extreme cold and storms.
- Increased risks of secondary hazards such as storm surge and ice jams leading to flooding.

Bering Straits REAA: Coastal villages experience severe wind storms, blizzards, and freezing rain, which frequently disrupt power and transportation. Blowing snow causes visibility hazards affecting air and marine travel (SHMP 2023).

Kashunamiut REAA: Chevak and nearby villages are vulnerable to ice storms and heavy snowfall that disrupt services and access (SHMP 2023).

Lower Yukon REAA: Heavy snow and ice events impact communities like Emmonak and Alakanuk, leading to frequent power outages and travel delays (SHMP 2023).

Lower Kuskokwim REAA: Severe winter storms and icing affect Bethel and surrounding villages, damaging infrastructure and interrupting subsistence activities (SHMP 2023).

Pribilof Islands REAA: St. Paul and St. George Islands contend with severe coastal storms bringing high winds and snow, impacting critical facilities and transportation (SHMP 2023).

Yupiit REAA: Communities like Akiachak face extreme cold snaps and heavy snowfall, complicating heating and fuel supply logistics (SHMP 2023).

Mitigation Efforts

- Mitigation efforts include:
- Development and maintenance of early warning systems for severe weather alerts through the National Weather Service and local tribal programs (SHMP 2023).
- Community investment in infrastructure hardening, such as reinforcing power lines, burying utilities, and improving building codes to withstand wind and snow loads (SHMP 2023).
- Emergency preparedness training and public education campaigns to increase resilience during storms (SHMP 2023).
- Use of community shelters and warming centers to protect vulnerable residents during extreme cold and power outages (SHMP 2023).
- Maintenance of snow removal equipment and protocols to keep transportation routes open (SHMP 2023).

Changing Conditions

The frequency and intensity of some severe weather events, including stronger coastal storms and fluctuating winter precipitation patterns, is expected (SHMP 2023). Warmer winters could lead to more freeze-thaw cycles, causing ice storms and unstable snowpack (Denali Commission 2019). Changes in sea ice extent affect storm patterns and reduce natural protections from flooding and erosion in coastal areas (NOAA 2020). Communities may face increased challenges maintaining infrastructure and emergency services in the face of more frequent and intense severe weather events and their cascading impacts.

Ground Failure (Land Subsidence/Landslides)

Hazard Summary

In Alaska, earthquakes, seasonally frozen ground, and permafrost are common causes of ground failure. Degrading permafrost, steep slopes, heavy rain, wildland fires, lahars from volcanic eruptions, and ground shaking from earthquakes are some of the common natural mechanisms that can trigger landslides. Other ground failure events are typically caused by groundwater, degrading permafrost, ground shaking from earthquakes, and local or regional subsidence or upheaval.

Impacts

Potential debris flows and landslides can damage and disrupt transportation, utility systems, and water and waste treatment infrastructure, and damage public, private, and business structures located adjacent to steep slopes, along riverine embankments, or within alluvial fans or natural drainages. Subsidence and other ground failure events can damage foundations, make roadways impassable, and cause utility outages by breaking utility connections such as sewer and water off of buildings (SHMP 2023). In developed areas, ground failure can be a result of improperly designed and constructed buildings and may impact buildings, communities, pipelines, airfields, roads and bridges. This has the potential for extensive structure loss or costly repairs; to avoid this a community must carefully consider planning and location of community infrastructures (St. Michael HMP 2023).

Bering Straits REAA Communities: In St. Michael, seasonal sinkholes regularly appear throughout the village each spring and summer. Community members have observed increasing frequency and severity over time. The village experiences buckling and warping of roads attributed to subsidence, causing infrastructure degradation and access challenges *(St. Michael HMP 2023; SHMP 2023)*. Similar trends are observed across the Bering Straits REAA.

Kashunamiut REAA Communities: Chevak is experiencing land subsidence as a result of permafrost degradation. Subsidence represents a risk to community infrastructure including utilities, critical facilities building foundations, drainage structures, and transportation and access structures (SHMP 2023).

Other Regions: While detailed village-level data is limited, communities across western and interior Alaska with permafrost-rich soils and steep terrain—such as in the Lower Yukon and Kuskokwim REAAs—face similar ground failure risks (SHMP 2023).

Mitigation Efforts

- Geotechnical studies and monitoring have been conducted in communities like St. Michael to identify subsidence risks (St. Michael HMP 2023).

- Infrastructure repairs address damaged roads, utilities, and drainage impacted by ground failure (SHMP 2023).
- Hazard mitigation plans include ground failure to prioritize resources and response (SHMP 2023).
- Engineering improvements such as slope stabilization and frost-protected foundations reduce damage risk (Denali Commission 2019).
- Public outreach efforts have been undertaken to educate residents on signs of ground failure and reporting (St. Michael HMP 2023).
- Interagency partnerships have provided technical support and funding for resilience projects (St. Michael HMP 2023).

Changing Conditions

Permafrost degradation is accelerating due to climate warming, weakening soils and increasing subsidence risk in many rural communities (SHMP 2023; Denali Commission 2019). Increased precipitation and thaw depth further destabilize slopes. Projected warming trends and altered hydrologic cycles suggest ground failure events will likely increase in frequency and severity unless adaptive measures are implemented.

Wildland Fires

Hazard Summary

Fire is a natural wildland management force in Alaska and a key environmental factor in cold-dominated ecosystems. Fire plays a role in rejuvenating ecosystems, by removing decaying matter and returning nutrients to the soil. Many of Alaska's ecosystems would cease to thrive without wildland fires (State HMP 2023).

Wildland fire of natural or human-caused origin that results in the destruction of life and property poses a serious public safety hazard. Wildland fires spread through the consummation of vegetation and other organic matter. They often begin unnoticed and spread quickly, sending dense smoke into the sky which can travel for miles. Wildland fires can be caused by human activities or by natural events such as lightening (State HMP 2023). In Alaska, there are four phases of fire season. Early fire season begins in April, when the soil below ground is still frozen. Wind is the key driver of fire activity during this phase, as surface fuels are primarily dead grasses. Fires during this phase generally cannot burn deeply into the frozen duff - a surface layer of decomposing moss, lichen, and litter - and are of low severity. Peak fire season occurs around solstice, when long, warm days dry out subsurface fuels after green-up. A layer of duff is a unique fuel bed that can allow wildfire to burn below the surface for days or weeks, reigniting surface fuels in favorable weather conditions. Lightning is a common cause of these fires. Later in July, the fire season can continue if temperatures remain high and precipitation is low (State HMP 2023).

The frequency and severity of wildland fires is dependent on weather, fuel availability, topography, and ignition source. All of Alaska is vulnerable to wildland fire (State HMP 2023). The communities included in this assessment are located within the EC4 Level II Bering Taiga and EC5 Level II Bering Tundra ecoregions of the state. These regions have a low fire load, although fires do happen under favorable conditions. These fires are mainly short in duration due to moisture impacting Alaska's western coastline (State HMP 2023).

Impact

Wildland fires that are not adequately controlled can become emergencies. Even small wildfires can threaten life, resources, and property. Wildfires that burn large swathes of forest and vegetation can have catastrophic indirect impacts. Large, intense fires can lead to soil moisture retention loss. Exposed soils erode quickly and enhance siltation of rivers and streams, thus increasing flood potential, harming aquatic life, and degrading water quality. (Brevig Mission HMP 2023). Wildfires affecting these communities have historically occurred predominantly outside of core population areas, resulting at times in reduced visibility, transportation impacts, and indirect ecosystem impacts. Many communities have limited fire facilities and personnel and are geographically isolated, relying on local volunteers in the event of emergencies.

Table 50. Bering Straits REAA Communities Wildland Fire Hazard Profile

Community	Extent	Impact	Probability of Future Events	Source of Information
Brevig Mission	Negligible	There have been 16 fires that consumed over 500 acres in the vicinity of Brevig Mission. No direct impacts to residence or critical infrastructure. Indirect impacts include reduced air quality, visibility, and transportation impacts.	Likely to experience a wildland fire event in the next three years.	2023 HMP
Elim	Negligible	There have been 15 fires that consumed over 500 acres in the vicinity of Elim. No direct impacts to residence or critical infrastructure. Indirect impacts include reduced air quality, visibility, and transportation impacts.	Likely to experience a wildland fire event in the next three years.	2023 HMP
Gambell	Negligible	Wildland fire impacts to Gambell have thus far been minimal, however there have been a number of small fires started by lightning strikes.	Possible a wildland fire will impact the community within the next five years.	2023 HMP
Golovin	Negligible	There have been more than 27 fires that consumed more than 500 acres in the vicinity of Golovin. No direct impacts to residence or critical infrastructure. Indirect impacts include reduced air quality, visibility, and transportation impacts.	Likely to experience a wildland fire event in the next three years.	2023 HMP
Koyuk	Limited	There have been 43 fires that consumed over 500 acres in the vicinity of Koyuk. Few direct impacts to residence and critical infrastructure. Indirect impacts include reduced air quality, visibility, and transportation impacts.	Likely to experience a wildland fire event in the next three years.	2023 HMP
Nome	Negligible	There have been few recorded historical wildland fire events.	Possible to experience a wildland fire in the next five years.	2025 HMP
Savoonga	Negligible	2004 lightning-caused fire impacted 0.1 acres.	Unlikely but possible a tundra fire event will	2012 HMP (expired)

Community	Extent	Impact	Probability of Future Events	Source of Information
			occur in the next 10 years.	
Shishmaref	Moderate wildfire risk area with some portions of the island (9%) having a high fire risk	No reported impacts to residences or critical facilities.	Relatively low at an average of one to three fires per decade within 70 miles of Shishmaref.	2023 HMP
St. Michael	Negligible	There have been more than 23 fires that consumed over 500 acres in the vicinity of St. Michael. No direct impacts to residences or critical infrastructure. Indirect impacts include reduced air quality, visibility, and transportation impacts.	Likely to experience a wildland fire event in the next three years.	2023 HMP
Stebbins	Negligible	No direct damages reported.	Unlikely but possible a tundra fire event will occur in the next 10 years.	2013 HMP (expired)
Teller	Negligible	There have been more than 27 fires that consumed over 500 acres in the vicinity of Teller. No direct impacts to residences or critical infrastructure. Indirect impacts include reduced air quality, visibility, and transportation impacts.	Likely to experience a wildland fire event in the next three years.	2023 HMP
Unalakleet	Critical	There have been more than 27 fires that consumed over 500 acres in the vicinity of Unalakleet. No direct impacts to residences or critical infrastructure. Indirect impacts include reduced air quality, visibility, and transportation impacts.	Likely to experience a wildland fire event in the next three years.	2023 HMP
Wales	Negligible	Wales has not been severely impacted by historical wildland fires. Secondary impacts have been a result of decreased air quality from smoke from distant fires.	Unlikely to experience a wild fire event in the next 10 years.	2025 HMP
White Mountain	Negligible	There have been more than 15 fires that consumed more than 500 acres in the vicinity of White Mountain, including one fire that burned 100,000 acres. No direct impacts to residences or critical infrastructure. Indirect impacts include reduced air quality, visibility, and transportation impacts.	Likely to experience a wildland fire event in the next three years.	2023 HMP

Negligible - with first aid injuries, minor quality of life lost, shutdown of critical facilities an services for 24 hours of less, and little to no permanent damage (less than 10 percent) to critical facilities or the economy.

Limited – with injuries that do not result in permanent disability of death, shutdown of critical facilities and services for more than 1 week, and more than 10 percent of property damaged.

Critical – where injuries and/or illnesses could result in permanent disability; a complete shutdown of critical facilities may last for at least two weeks; and more than 25 percent of property would be severely damaged.

Table 51. Kashunamiut REAA Communities Wildland Fire Hazard Profile

Community	Extent	Impact	Probability of Future Events	Source of Information
Chevak	Catastrophic. The loss of several structures to fire, or of a key facility, could result in several deaths, the shutdown of critical facilities for a month or more and result in major property damage.	No reported damages, however a conflagration could be a very high-consequence event.	Unlikely	2018 HMP (expired)

Table 52. Lower Yukon REAA Communities Wildland Fire Hazard Profile

Community	Extent	Impact	Probability of Future Events	Source of Information
Alakanuk	Not reported	There have been 35 recorded wildfires within approx. 60 miles of Alakanuk since 1939.	Possible but not likely	2021 HMP
Emmonak	10.6% of the land area in Emmonak is in a high/very high fuel risk area.	There have been no fires within 30 miles. The community experiences a decrease in air quality from other area fires.	Average recurrence rate of approx.every 10 years.	2023 HMP
Hooper Bay	Limited	2006 human-caused structure fire destroyed two schools and 14 homes.	Possible that a wildland or tundra fire event with an urban interface could occur within the next 5 years.	2015 HMP (expired)
Kotlik	Highly vulnerable	Over 60 years, 26 wildland fire events have occurred within 60 miles of Kotlik.	Possible future wildland fire events will occur around Kotlik.	2019 HMP

Community	Extent	Impact	Probability of Future Events	Source of Information
Marshall	Limited	170 tundra/wildland fires occurred within 50 miles of the city as of the 2014 HMP, including fires in 2005 and 2006 that burned over 50,000 acres.	Likely to experience a wildland fire event in the next three years.	2014 HMP (expired)
Mountain Village	Negligible	Since 1938, 103 wildland fire vents have occurred within 50 miles of the community.	Unlikely but possible to experience a wildfire event in the next 10 years.	2014 HMP (expired)
Nunam Iqua	Critical	Smoke from local as well as regional fires can be carried by winds with potential health risks for residents of Nunam Iqua. Visibility can be reduced significantly and disorient people traveling in the Lower Yukon area.	Unknown	2008 HMP (expired)
Pilot Station	Negligible	25 wildland fires have occurred within approx. 25 miles of the City. No direct impacts to residences or critical infrastructure. Indirect impacts include reduced air quality, visibility, and transportation impacts.	Likely to experience a wildland fire event in the next three years.	2018 HMP (expired)
Russian Mission	Negligible	Since 1940, 72 wildland fires occurred within 50 miles of the City. No direct impacts to residences or critical infrastructure. Indirect impacts include reduced air quality, visibility, and transportation impacts.	Likely to experience a wildland fire event in the next three years.	2013 HMP (expired)
Scammon Bay	Negligible	Since 1938, seven Scammon Bay wildland fires events have occurred within 50 miles of the City.	Unlikely but possible to experience a wildfire event in the next 10 years.	2013 HMP (expired)

Table 53. Bethel Census Area Communities Wildland Fire Hazard Profile

Community	Impact	Extent	Probability of Future Events	Source of Information
Akiachak	Negligible	33 of the historical 72 tundra/wildland fires located within 50 miles of Akiachak burned more than 50 acres.	Unlikely but possible to experience a wildfire event in the next 10 years.	2013 HMP (expired)
Akiak	46% of the land area in Akiak is in a high/very high fuel risk area.	The closest fire to Akiak was in 2015, which burned over 23,000 acres.	Recorded wildfires within 50 miles of Akiak have an average recurrence rate of approximately every 10 to 20 years.	2022 HMP
Atmautluak	Negligible	Since 1939, 99 wildland fire events have occurred within 50 miles of the Village. However, due to the Village's very wet tundra location as depicted in Figure 5-14, only six have occurred within 10 miles of the Village.	Unlikely but possible to experience a wildfire event in the next 10 years.	2015 HMP (expired)
Bethel	Critical	Approx. 95 wildland fires occurred within 50 miles of the City from 1939 to 2017.	Likely a wildland fire event will occur within the next 10 years.	2017 HMP (expired)
Eek	Negligible	58 tundra/wildland fires within 50 miles of the Eek area since 1940.	Unlikely but possible to experience a wildfire event in the next 10 years.	2014 HMP (expired)
Goodnews Bay	Negligible	Since 1938, wildfires have typically occurred east of Goodnews Bay; closer to the community of Togiak.	Unlikely but possible to experience a wildfire event in the next 10 years.	2017 HMP (expired)
Kipnuk	Negligible	7 wildfires within 50 miles of the Village from 1939 to 2017.	Unlikely but possible to experience a wildfire event in the next 10 years.	2018 HMP (expired)
Kongiganak	Approximately 4,672.38 acres (54.57 %) in Kongiganak are in a moderate wildfire hazard area, while an additional 3,772.95 (44.07%) are in a high wildfire hazard area. The remaining 116.22 acres (1.36%) are in a very high wildfire hazard area.	8 wildfires recorded from 1990 to 2022.	Recorded wildfires within 50 miles of Kongiganak have an average recurrence rate of approximately every 4 years. It is anticipated that this probability will continue into the future or increase in frequency as climate change may increase fuels.	2022 HMP
Kwethluk	Limited	Wildfires could destroy the entire community of Kwethluk. The loss of any structure is devastating to such	Unknown	2009 HMP (expired)

Community	Impact	Extent	Probability of Future Events	Source of Information
		a small community where services and housing are limited. However, even a less cataclysmic fire has the potential to negatively impact the community. A fire that causes the closure of the airport would halt the transportation of goods and services.		
Napaskiak	Limited	11 wildland fire events have occurred within 50 miles of the City since 1939. No direct impacts reported.	Highly likely within the next year.	2014 HMP (expired)
Newtok and its Mertarvik subdivision	Minimal fuel for a fire with relatively flat topography in the area.	Wildland and conflagration fires have not been documented within the boundaries of Newtok or its Mertarvik subdivision.	Possible future fire events will occur but not likely.	2020 HMP
Nunapitchuk	Conditions of fire and firefighting could result in injuries and/or illness that results in permanent disability, or a fire could result in the shutdown of critical facilities for at least a week, or more than 25% or property could be severely damaged by a fire event.	Wildland fire occurred in summer 2016.	Possible	HMP 2018 (expired)
Quinhagak	Residents have limited air and marine access to hub communities and must rely on their own resources for a significant time during a wildland or conflagration fire.	Wildland and conflagration fires have not been documented within the boundaries of Quinhagak; however, seven wildland fires occurred within 50 miles from 1939 to 2019.	Possible but not likely.	2020 HMP
Tuluksak	Negligible	86 wildland fires have occurred within 50 miles of the Village since 1939.	Unlikely but possible to experience a wildfire event in the next 10 years.	2013 HMP (expired)
Tuntutuliak	Limited	42 tundra/wildland fires within approx.. 50 miles to the Village since 1940.	Unlikely to experience a wildfire event in the next 10 years.	2015 HMP

Table 54. Pribilof Islands REAA Communities Wildland Fire Hazard Profile

Community	Extent	Impact	Probability of Future Events	Source of Information
Saint Paul	71% of the total area is in a moderate wildfire risk area. Some portions of the interior of the island have a very high fire risk.	No reported damages, however a conflagration could be a very high-consequence event.	Relatively low at an average of two to three fires per decade.	2022 HMP

Mitigation Efforts

Mitigating wildfire risk in Alaska — particularly in rural, remote, and subsistence-based communities — involves a combination of fuel management, community planning, education, and emergency preparedness. The Alaska Division of Forestry and Fire Protection (DOF), in partnership with local governments, tribal entities, and federal agencies (notably BLM), leads coordinated mitigation initiatives across the state.

Changing Conditions

Changing weather patterns are creating conditions that leave western Alaska's environment more conducive to wildfire. Thunderstorm events will be more frequent, which often ignite wildfires. Pests such as the spruce beetle increase areas with standing dead fuels, thus increasing the chance for wildfires. Tundra and boreal forest regions are seeing larger and more frequent fires, and Alaska' wildfire season is getting longer. This is driven by multiple factors including increasing summer temperatures (Alaska SHMP 2023).

Future Climate Conditions

Future climate conditions pose hazards with wide-reaching effects on nearly every other hazard type (erosion, flooding, permafrost thaw, severe weather, wildfire, etc.). Alaska is warming at more than twice the global average, with western and northern regions experiencing some of the most dramatic changes due to their dependence on seasonal ice and permafrost stability (SHMP 2023).

Primary hazards related to future climate conditions in Alaska include:

- Increased permafrost degradation
- Accelerated coastal and riverine erosion
- Higher flood frequency and severity
- More frequent and intense wildfires
- Changes in sea ice dynamics and loss of cryosphere
- Disruption to subsistence resources and infrastructure

Impacts

Impacts identified in the SHMP include:

- Infrastructure failure from permafrost thaw and erosion (roads, water/sewer systems, building foundations)
- Loss of access to subsistence resources due to ecosystem shifts or ice changes
- Increased costs for energy and transportation

- Greater reliance on emergency response due to cascading events (floods, storms, etc.)
- Relocation pressures for multiple communities

Bering Strait REAA: Communities like Shishmaref, Shaktoolik, Golovin, and Kivalina (outside REAA) are experiencing severe coastal erosion and permafrost thaw, putting homes, roads, and critical facilities at risk. Sea ice forms later and retreats earlier, leaving communities exposed to open-ocean storm surge longer each year (SHMP 2023).

Lower Yukon REAA: Warmer winters and increased precipitation are affecting travel over ice and river systems, and degrading ground stability. Ice jams and snowmelt flooding are projected to increase, threatening low-lying riverine communities (SHMP 2023).

Lower Kuskokwim REAA: Flood risk, permafrost degradation, and erosion are all increasing. Subsistence disruption is a growing concern, particularly in communities like Quinhagak and Newtok, which face imminent relocation (Denali Commission 2019).

Yupiit REAA: Interior warming has led to greater wildfire exposure, changes to snowpack, and earlier break-up of river ice. Communities like Tuluksak and Akiachak are increasingly affected by water infrastructure damage from permafrost thaw (SHMP 2023).

Pribilof Islands REAA: Sea-level rise and storm exposure due to diminished sea ice increases flooding potential on St. Paul and St. George Islands. Marine ecosystem shifts are affecting subsistence fishing and hunting, including seal, walrus, and seabird populations (SHMP 2023).

Mitigation Efforts

Communities like Newtok, Shishmaref, and Shaktoolik are undergoing federally and state-supported efforts to relocate or stabilize infrastructure. Agencies involved include Denali Commission, HUD, BIA, and FEMA (SHMP 2023, Denali Commission 2019). Programs like the Statewide Threat Assessment (2019), the Alaska Permafrost Mapping Project, and the UAF Scenarios Network for Alaska and Arctic Planning (SNAP) provide scenario-based climate models and localized hazard data. Grants from the Alaska Energy Authority (AEA) and other agencies have supported renewable energy, weatherization, and energy security for remote communities vulnerable to supply disruption. Many Alaska Native communities are developing Tribal Climate Resilience Plans with BIA funding. These plans include vulnerability assessments and cultural preservation strategies (SHMP 2023). Future climate conditions have been incorporated into local HMPs and other planning documents, with technical support from the State and partner organizations.

Changing Conditions

Mean annual temperatures are projected to rise another 2–4 degrees C across most of Alaska by mid-century. Communities may see overlapping hazards, such as permafrost degradation combined with flooding and wildfire. Long-term habitability is threatened in some communities. A growing number may require relocation assistance or infrastructure overhauls (SHMP 2023).

Earthquakes

Hazard Summary

Alaska is the most seismically active state in the U.S., accounting for more than 50% of the nation's earthquakes each year *(SHMP 2023)*. This high activity is due to the tectonic interaction between the Pacific and North American plates, particularly along the Aleutian subduction zone.

Earthquakes range in magnitude and depth, but even moderate events can cause significant damage in remote and urban areas alike.

Alaska experiences:

- Subduction zone megathrust earthquakes, like the 1964 Great Alaska Earthquake (M9.2),
- Crustal and intraplate earthquakes, often near populated areas,
- Aftershock sequences that can persist for months or years.

Hazards from earthquakes include ground shaking, surface rupture, liquefaction, landslides, and in some cases, tsunamis *(*SHMP 2023; USGS 2020).

Impacts identified in the SHMP include:

- Structural damage to homes, schools, critical facilities, and utilities.
- Disruption of transportation systems (e.g., bridges, airports, roads).
- Utility outages due to broken pipelines, downed lines, and facility damage.
- Increased risk of landslides, avalanches, and ground failure, especially in areas with unstable soils or permafrost.
- Risk of fires from ruptured gas lines or fuel systems.
- Public safety concerns including injury, fatalities, and displacement.

Bering Strait REAA: While not near the most active seismic zones, communities like Nome and Shishmaref could still experience moderate shaking. Older or poorly anchored structures are most vulnerable (SHMP 2023).

Lower Yukon REAA: Areas like Mountain Village and Emmonak face moderate seismic risk; their vulnerability increases due to poor soil conditions and limited emergency infrastructure (SHMP 2023).

Lower Kuskokwim REAA: Communities such as Bethel and Newtok are located in a zone of moderate seismicity. Infrastructure in permafrost areas may amplify damage due to unstable ground (SHMP 2023).

Yupiit REAA: Villages like Akiachak are susceptible to shaking, though major quakes are less common. Ground failure and infrastructure vulnerability remain concerns (SHMP 2023).

Pribilof Islands REAA: Moderate to high seismic risk due to proximity to the Aleutian arc. St. Paul and St. George have critical infrastructure exposed to ground shaking and potential tsunami risk (SHMP 2023).

Kashunamiut REAA: Chevak lies in a lower seismic risk zone, but older structures and limited redundancy in critical infrastructure make it sensitive to even moderate events (SHMP 2023).

Mitigation Efforts

Earthquake mitigation efforts have included investments in seismic monitoring, seismic retrofits of schools and public buildings, adoption of seismic building codes in new construction, public preparedness programs, and hazard mitigation planning that identifies critical infrastructure and emergency response gaps related to earthquake risk (SHMP 2023).

Changing Conditions

Earthquake frequency is not directly tied to climate change, but permafrost degradation and soil instability could amplify ground motion impacts. Aging infrastructure in remote communities increases vulnerability to shaking-related damage (SHMP 2023).

Volcanoes

Hazard Summary

Volcano-generated ash periodically impacts Alaska communities, with impacts most severe for communities closer to volcanoes. Alaska is home to over 130 volcanoes and volcanic fields, with more than 50 classified as historically active. Most are located along the Aleutian Arc, part of the Pacific "Ring of Fire," where the Pacific Plate subducts beneath the North American Plate. While many volcanoes are remote, eruptions can have far-reaching impacts due to ash clouds, lahars (volcanic mudflows), pyroclastic flows, and acid rain. Volcanic ash can create severe air quality, water quality, marine, and road transportation impacts, disrupt utility operations, etc. Tephra can impact those communities closest to volcanoes (State of Alaska HMP 2023).

Volcanic hazards in Alaska include:

- Ashfall that affects air quality, mechanical systems, and visibility.
- Lahars and flooding from glacial melt and heavy precipitation.
- Pyroclastic flows near eruption sites.
- Volcanic gas emissions (e.g., sulfur dioxide) that can cause respiratory issues.
- Air traffic disruptions, as volcanic ash can damage jet engines and force closures of trans-Pacific flight routes (SHMP 2023; AVO 2020).

Impacts

Impacts from earthquakes identified in the SHMP include:

- Disruption of air travel, including delays and re-routing of cargo and passenger flights.
- Ash accumulation on roofs, roads, and water supplies.
- Health hazards from inhalation of fine ash particles, particularly for children and individuals with respiratory conditions.
- Damage to machinery and electronics, including vehicles, heating systems, and power generation equipment.
- Contamination of water sources and degradation of vegetation.
- Economic impacts on fisheries, subsistence harvests, and infrastructure maintenance.

Bering Strait REAA: While not near active volcanic systems, communities like Nome and Shishmaref may experience ashfall from distant eruptions, particularly from volcanoes in the Aleutian Islands or Katmai region. These impacts could disrupt air service and outdoor activities (SHMP 2023).

Lower Yukon REAA: Similar to Bering Strait, these communities are unlikely to be directly impacted by lava flows or lahars, but airborne ash is a concern due to prevailing wind patterns (SHMP 2023).

Lower Kuskokwim REAA: Some proximity to the Veniaminof and Makushin volcanoes, though direct impacts are rare. Bethel and surrounding villages may be affected by airborne ash, which can disrupt aviation and foul air filters (SHMP 2023).

Yupiit REAA: Low direct risk from volcanic activity, though ashfall is possible during major eruptions from the Alaska Peninsula and Aleutian chain (SHMP 2023).

Pribilof Islands REAA: St. Paul and St. George Islands are closest to the Aleutian arc and are susceptible to ash clouds and air traffic interruptions, particularly during eruptions from volcanoes such as Okmok, Cleveland, or Shishaldin (AVO 2020).

Kashunamiut REAA: Chevak and surrounding areas may also receive ashfall during major events, potentially affecting heating systems and water catchment (SHMP 2023).

Mitigation Efforts

Volcano monitoring and alerts are coordinated by the Alaska Volcano Observatory (AVO), which issues warnings, updates, and aviation color codes in real time *(AVO 2020)*. Hazard mapping and risk assessments have been conducted for areas near active volcanoes, including ashfall dispersion modeling *(SHMP 2023)*. Public education and preparedness programs, especially in communities downwind of high-risk volcanoes. Emergency response planning in some REAAs includes protocols for ash cleanup, air filtration, and school closures *(SHMP 2023)*. Air traffic management coordination between AVO, FAA, and aviation companies to mitigate risks to aircraft.

Future Conditions

Climate change may affect glacier-covered volcanoes by increasing the risk of lahars due to faster glacial melt during eruptions (SHMP 2023). Population growth and increasing reliance on aviation mean that volcanic ash will continue to pose a significant statewide risk, even to distant communities. Improvements in real-time monitoring and early warning systems will help reduce risk.

Tsunamis

A tsunami is a series of traveling waves of extremely long length generated by earthquakes occurring below or near the ocean floor. Tsunamis are a significant hazard for many coastal communities in Alaska, particularly along the southern coast and Aleutian Islands, though their effects can extend across large ocean areas. Alaska has experienced some of the most powerful tsunami-generating events in U.S. history — most notably the 1964 Great Alaska Earthquake, which produced waves over 200 feet in some locations (SHMP 2023).

Alaska's Tsunami Inundation Mapping Program has produced inundation maps for several western Alaska communities. These communities include: Shishmaref, Wales, Unalakleet, Golovin, Shaktoolik, Platinum, St. George, and St. Paul. This mapping program continues to expand (AEC Inundation Mapping Project).

Impacts

Tsunamis can arrive within minutes of a nearby earthquake, leaving little time for evacuation. They can cause catastrophic flooding, erosion, debris impact, loss of life, and destruction of critical infrastructure. Impacts identified in the SHMP include:

- Loss of life and injury due to rapid-onset, high-energy wave impacts.
- Severe flooding and coastal erosion, damaging homes, public buildings, and roads.
- Debris impacts from marine and built structures.
- Disruption of transportation and utilities, particularly in port or harbor communities.
- Economic disruption due to damage to fisheries, transportation, fuel infrastructure, and public services.

Bering Strait REAA: Most communities (e.g., Nome, Shishmaref) are not highly exposed to tsunami inundation from distant-source events but may face low-probability, high-impact risks from submarine landslides or local seismic events (SHMP 2023).

Lower Yukon REAA: These inland communities are not exposed to tsunami hazards due to their distance from the ocean.

Lower Kuskokwim REAA: Coastal communities such as Quinhagak, Toksook Bay, and Platinum face some exposure to tsunami waves, particularly from nearshore earthquakes or submarine landslides in the Bering Sea or Kuskokwim Bay (SHMP 2023).

Yupiit REAA: Mostly inland communities; minimal tsunami risk.

Pribilof Islands REAA: St. Paul and St. George Islands are potentially exposed to tsunami waves generated from Aleutian subduction zone earthquakes, with potential impacts to harbors and low-lying infrastructure (SHMP 2023).

Kashunamiut REAA: Coastal locations like Chevak may have limited tsunami exposure but are more vulnerable to severe coastal storms and erosion than tsunamis specifically (SHMP 2023).

Mitigation Efforts

Alaska participates in the National Tsunami Hazard Mitigation Program (NTHMP), with real-time monitoring and alert systems via NOAA and the Pacific Tsunami Warning Center (NOAA NWS 2023). Tsunami evacuation planning and signage are in place in high-risk coastal communities. Hazard mapping and inundation modeling have been completed for many communities through efforts by the Alaska Division of Geological & Geophysical Surveys (DGGS) and NOAA, although many communities have not been individually mapped (SHMP 2023). Community education and drills, including participation in "Tsunami Awareness Week" and local hazard awareness programs (SHMP 2023). Sirens and local alert systems have been installed in some vulnerable communities to support rapid evacuation. Infrastructure relocation or elevation projects have been undertaken in select communities to move critical assets out of inundation zones.

Other

The following hazards were identified in a small number of HMPs and are not extensively assessed here.

- Radon / Naturally Occurring Uranium
- Hazardous Materials Event – Ammonia
- Infectious Disease
- Economic
- Technological

2.6.6 Indispensable Services

Indispensable services are those that enable the continuous operation of critical business and government functions and/or are critical to human health and safety and economic security. As part of the HMP process, each jurisdiction with a plan identified critical facilities that could be impacted during and/or needed immediately after a natural disaster. The types of facilities are summarized below.

- Government facilities, such as tribal and city administrative offices

- Educational facilities, including P-12
- Emergency response facilities, including police departments, fire stations and VPSO offices
- Community gathering places, such as community and youth centers and churches
- Care facilities, such as medical clinics
- Utilities, such as electric generation, communications, water and wastewater treatment, sewage lagoons, landfills, and fuel tanks.
- Businesses including grocery stores, hardware stores, and banks

2.6.7 Mitigation Actions

When using CDBG-DR funds for mitigation-only activities, grantees must demonstrate that the activities 1) meet the definition of mitigation activities; 2) address identified risks in the MID areas and a direct or indirect impact from the disaster; and 3) meet a national objective. The activities must also be CDBG-eligible. These criteria collectively are applicable only when a grantee is pursuing a mitigation-only activity that is not connected to an otherwise eligible CDBG-DR activity that would be responding to a remaining unmet recovery need.

In October 2023, FEMA and DHS&EM published a Recovery Needs Assessment available at: https://www.commerce.alaska.gov/web/Portals/4/pub/CDBG-Merbok/DR-4672-AK%20Recovery%20Needs%20Assessment%20Second%20Edition%20FINAL%20DRAFT.pdf. This assessment summarized the recovery needs identified in: Chefornak, Chevak, Gambell, Golovin, Hooper Bay, Kipnuk, Koyuk, Napakiak, Newtok, Nightmute, Nome, Nunam Iqua, Scammon Bay, Shaktoolik, Shishmaref, Saint Michael, Stebbins, Toksook Bay, and Tuntutuliak.

In October 2023, FEMA and DHS&EM published a Recovery Strategy available at: https://www.commerce.alaska.gov/web/Portals/4/pub/CDBG-Merbok/DR-4672-AK%20Recovery%20Strategy%20FINAL.pdf. This strategy summarized the planned and proposed projects contributing to a whole-of-community recovery in the area of western Alaska impacted by the remnants of Typhoon Merbok (DR-4672-AK) in the following communities: Chevak, Golovin, Hooper Bay, Kipnuk, Koyuk, Nightmute, Nunam Iqua, Scammon Bay, Saint Michael, Stebbins, Toksook Bay and Tuntutuliak.

Additionally, existing Hazard Mitigation Plans (HMPs) completed after Typhoon Merbok were surveyed for identified mitigation actions. The complete list of prioritized mitigation actions can be found in each jurisdiction's Hazard Mitigation Plan, which is searchable here: https://www.commerce.alaska.gov/dcra/admin/PlanMgmt?menuLibraryTypeID=2.

Unmet Needs Identified in the October 2023 Recovery Needs Assessment

Erosion

Coastal communities in remote western Alaska rely on erosion mitigation measures such as seawalls, berms, and gabion baskets to protect homes, businesses, and public infrastructure against erosion. Some flood risk management measures were damaged or destroyed during the storm. In other cases, the storm exacerbated existing erosion and created the necessity for new measures.

The Interagency Recovery Coordination (IRC) Team worked with nine (9) communities: Chevak, Hooper Bay, Kipnuk, Nunam Iqua, Scammon Bay, Saint Michael, Stebbins, Toksook Bay, and Tuntutuliak; to

submit applications to the USACE 165a Pilot Program. This program can fund 100 percent of the cost of projects that address flood, ecosystem, bank erosion, and/or navigational improvements for up to 20 economically disadvantaged communities nationwide. Chevak was awarded funding to reduce the risk of erosion along the right bank of the Ninglikfak River.

Outstanding Erosion-Related Needs

- Communities that did not receive USACE grant funding include St. Michael, Stebbins, Nunam Iqua, Scammon Bay, Hooper Bay, Toksook Bay, Kipnuk, Tuntutuliak. These communities will need to seek alternative sources of funding for erosion measures.
- Golovin has decided not to move forward on the 165a project for a rock revetment and may need an alternative source of funding to protect the power plant area.

Possible Funding Sources

USACE Section 165a Pilot Program Continuing Authority Projects in Small or Disadvantaged Communities: Will fund 100 percent of the cost of projects that address flood, ecosystem, and/or bank erosion, navigational improvements for up to 20 economically disadvantaged communities nationwide as part of a pilot program. May be used for erosion measures near landfills.

FEMA Public Assistance (PA): 406 Mitigation - Funds work to protect damaged facilities against future damage, restore facilities, encourage hazard-resistant design, relocation of facilities (from hazard prone areas).

FEMA Hazard Mitigation Grant Program: Funds provided to state, local, tribal, and territorial governments so they can rebuild in a way that reduces, or mitigates, future disaster losses in their communities.

U.S. Army Corps of Engineers (USACE) Continuing Authorities Program (CAP) Small Beach Erosion Control: Provides protection or restoration of public shorelines by construction of revetments, groins4, and jetties.

USACE Continuing Authorities Program (CAP) Small Flood Risk Management: The Small Flood Risk Management Program (Section 205) provides a continuing authority for USACE to construct projects (structural or nonstructural) to reduce damages caused by flooding in urban areas, towns, and villages.

Environmental Protection Agency Indian General Assistance Program (EPA IGAP): This program helps tribes develop capacity to administer environmental programs.

Emergency Management

Communities expressed a desire to be more prepared for the next storm by strengthening communications infrastructure, repairing shelters, building response teams, and informing themselves on the Stafford Act.

The Interagency Recovery Coordination (IRC) Team provided information on the FEMA Individual (IA) programs to communities who asked for it. The FEMA Hazard Mitigation Advisor helped at least four communities submit Notices of Intent to update hazard mitigation plans, the first step in unlocking Hazard Mitigation Grant Program funding that could address some remaining needs.

Outstanding Emergency Management-Related Needs

- Communities have identified a number of general emergency preparedness unmet needs, such as new emergency communications equipment with backup power options.
- Gambell - The community would like to build a new evacuation center on higher ground along the road to Savoonga. They would like a permanent structure, a steel building with concrete floors, that can withstand intensifying storms and is fully stocked with enough water, food, power, etc., to sustain 800-1,000 community members for at least 2 months.
- Golovin - The Village Public Safety Officer (VPSO) proposed the idea of a fully stocked emergency shelter facility, expressing concern that the community does not have a facility that can comfortably serve this purpose. The Tribal Office was used as a shelter after Typhoon Merbok, some residents had to camp outside.
- Hooper Bay - The community has never experienced floodwaters reaching this far into their village, nor has their community ever been bisected from flooding before. Community representatives want an emergency evacuation facility to provide residents of the "old town" a safe place to go if a similar flooding event were to occur. The community identified a building in "old town" that could potentially be used for an evacuation facility, but it would require funding to retrofit the building to meet proper structural and fortification standards.
- Kipnuk - The community currently uses the school as an evacuation site, but representatives indicated they could use a dedicated building for an evacuation center that also functions as a community center. Representatives shared they would like to connect new Elder Housing, the proposed community center, a new proposed temporary shelter for domestic violence victims, and a proposed Head Start Building to the existing Public Safety Facility.
- Stebbins - Current evacuation sites, i.e., the school, and the IRA building are insufficient to shelter residents. The community would like a new, larger evacuation center/multi-purpose building.
- Tuntutuliak - The community does not have firefighting equipment.

Possible Funding Sources

USDA Rural Development Community Facilities Loan/Grant Program: Can assist with things like fire equipment and emergency communication equipment.

USDA Community Facilities Technical Assistance and Training (TAT) Grant: Intended to address capacity challenges faced by small, low-income rural communities with limited resources and staff. Helps communities access USDA funding for essential community facilities.

Alaska Department of Natural Resources Fire Protection Volunteer Fire Assistance Grant: Provides assistance in training, equipment purchases, and prevention activities, on a cost share basis. The assistance is provided to increase firefighter safety, improve the firefighting capabilities of rural volunteer fire departments, and enhance protection in the urban-wildland interface.

FEMA Fire Prevention and Safety Grants: Provides critically needed resources to carry out fire prevention education and training, fire code enforcement, fire/arson investigation, firefighter safety and health programming, prevention efforts, and research and development.

FEMA Staffing for Adequate Fire & Emergency Response (SAFER): Assists local fire departments with staffing and deployment capabilities in order to respond to emergencies and assure that communities have adequate protection from fire and fire-related hazards.

FEMA Assistance to Firefighters Grant (AFG) Program: Enhances the safety of the public & firefighters by providing direct financial assistance to eligible fire departments, nonaffiliated EMS organizations, & State Fire Training Academies for critically needed resources to equip/train emergency personnel.

FEMA Public Assistance (PA): 406 Mitigation - Funds work to protect damaged facilities against future damage, restore facilities, encourage hazard-resistant design, relocation of facilities (from hazard prone areas).

FEMA Hazard Mitigation Grant Program: Funds provided to state, local, tribal, and territorial governments so they can rebuild in a way that reduces, or mitigates, future disaster losses in their communities.

Outstanding Wastewater Management-Related Needs

- There are identified needs to make upgrades to utility equipment in order to withstand future storm events.

Possible Funding Sources

Village Safe Water Capital Improvement Program and Related Programs: The Alaska Department of Environmental Conservation (ADEC), the U.S. Environmental Protection Agency (EPA), the Indian Health Service (IHS), USDA-RD, and the ANTHC work together to collectively fund sanitation projects in the impacted area. IRC will identify and monitor planned construction efforts that will contribute to the resilience of water and wastewater infrastructure.

Indian Health Service (IHS) Sanitation Facilities Construction Program: Provides technical and financial assistance to American Tribes and Alaska Native villages for the cooperative development and construction of safe drinking water supply, sewage, and solid waste disposal facilities, and related support facilities. The Bipartisan Infrastructure Law bill directs the Indian Health Service to use up to $2.2 billion of the $3.5 billion appropriation on economically infeasible projects.

Federal Emergency Management Agency (FEMA) Public Assistance (PA) Grant Program: Provides supplemental grants to state, tribal, territorial, and local governments, and certain types of private non-profits so communities can quickly respond to and recover from major disasters or emergencies.

Community Development Block Grant Program (CDBG-DR): Funding for eligible Indian Tribes and Alaska Native Villages to help improve the housing stock, provide community facilities, and make infrastructure improvements.

USDA-RD Water & Environmental Programs: Several funding programs are available to help with impacts to community infrastructure systems for drinking water, waste disposal, landfills, washeterias, and decentralized systems.

USACE Continuing Authorities Program (CAP) Small Beach Erosion Control: Provides protection or restoration of public shorelines by construction of revetments, groins7, and jetties.

USACE Continuing Authorities Program (CAP) Small Flood Risk Management: The Small Flood Risk Management Program (Section 205) provides a continuing authority for USACE to construct projects (structural or nonstructural) to reduce damages caused by flooding in urban areas, towns, and villages.

Outstanding Housing Recovery-Related Needs

- Many communities experienced residential displacement and need to rebuild in a way that mitigates risks from erosion and flooding.

Possible Funding Sources

USDA Natural Resources Conservation Service (NRCS) Emergency Watershed Protection Program: Offers vital recovery options for local communities to help reduce hazards to life and property caused by floodwaters, droughts, wildfires, earthquakes, windstorms, and other natural disasters. Project funds address erosion related watershed activities. Can pay for the relocation of homes.

USDA Rural Disaster Home Repair Grant Program: Through this program, eligible homeowners may apply to receive grants of up to $40,675 directly from USDA to repair their homes.

Bureau of Indian Affairs (BIA) Emergency Aid to Tribal Government: Covers destroyed or damaged homes, damaged property boundary markers, replacement of subsistence food and food harvesting equipment, solid waste collection and removal, and minor construction associated with infrastructure and homes.

Voluntary Organizations Active in Disasters (VOAD) Mission: Voluntary agencies conducted a mission to help residents prepare repair materials lists in Hooper Bay and Stebbins. They may return to help rebuild later in the summer.

Community Development Block Grant Program (CDBG-DR): Funding for eligible Indian Tribes and Alaska Native Villages to help improve the housing stock, provide community facilities, make infrastructure improvements, fund microenterprises, and expand job opportunities.

Outstanding Solid Waste Disposal-Related Needs

- There is an identified need to mitigate impacts of erosion, flooding, and other hazards to solid waste infrastructure and to incorporate mitigation into solid waste disposal planning.

Possible Funding Sources

IHS Sanitation Facilities Construction Program: Provides technical and financial assistance to American Tribes and Alaska Native villages for the cooperative development and construction of safe drinking water supply, sewage, and solid waste disposal facilities, and related support facilities. The Bipartisan Infrastructure Law bill directs the Indian Health Service to use up to $2.2 billion of the $3.5 billion appropriation on economically infeasible projects.

FEMA PA Grant Program: Provides supplemental grants to state, tribal, territorial, and local governments, and certain types of private non-profits so communities can quickly respond to and recover from major disasters or emergencies.

ADEC Solid Waste Program: Regulates health and environmental compliance at solid waste facilities through a combination of design review, permits and authorizations, inspections, monitoring, and compliance assistance.

Alaska Backhaul Program: The EPA-funded backhaul program is a long-term program in which a community collects, stores, and backhauls specified materials out of the community on a regular basis.

Sanitary Deficiency System (SDS): The SDS contains a list of identified sanitation issues that state, federal, regional health partners use to prioritize projects.

USDA-RD Water & Environmental Programs: Several funding programs are available to help with impacts to community infrastructure systems for drinking water, waste disposal, landfills, washeterias and decentralized systems.

USACE Continuing Authorities Program (CAP) Small Beach Erosion Control: Provides protection or restoration of public shorelines by construction of revetments, groins8, and jetties.

USACE Continuing Authorities Program (CAP) Small Flood Risk Management: The Small Flood Risk Management Program (Section 205) provides a continuing authority for USACE to construct projects (structural or nonstructural) to reduce damages caused by flooding in urban areas, towns, and villages.

Outstanding Damaged Cemeteries, Churches, and Artifacts-Related Needs

- Repair and improvement needs were identified in Hooper Bay, Kipnuk, Koyuk, Nunam Iqua, St. Michael, Stebbins, Toksook Bay, and Tuntutuliak.

Possible Funding Sources

PA Public Assistance Grant Program: Provides supplemental grants to state, tribal, territorial, and local governments, and certain types of private non-profits so communities can quickly respond to and recover from major disasters or emergencies. Applicants can receive reimbursement for eligible damages to cemeteries, e.g., to grave markers and fencing.

NCR RSF Working Group Sessions on Cemeteries: The NCR RSF Field Coordinator facilitates sessions with Federal, State, and Local stakeholders who can contribute expertise and/or funding.

National Park Service (NPS) National Center for Preservation Technology: This program provides technical assistance on online resources for cemetery recovery.

Cemetery Recovery Guidebook for Communities: A representative of the Alaska Department of Military and Veterans Affairs is working on a guidebook for communities experiencing erosion to their cemeteries. He hopes to complete it by January 2024. § National Endowment for the Humanities Grant – This grant for archaeological field research may help communities with damaged/uncovered artifacts.

U.S. Department of Health and Human Services Disaster Mortuary Operational Response Team: Composed of personnel with different fields of expertise who can assist local authorities in managing the remains of the deceased.

Alaska Office of History and Archaeology (OHA): Can conduct surveys and provide technical assistance.

National Park Service Tribal Heritage Grant: Provides grants to Federally recognized Indian Tribes for cultural and historic preservation projects

USDA-RD Community Facilities Direct Loan and Grant Program: This program provides affordable funding to develop essential community facilities in rural areas. May pay for heavy equipment to build a new cemetery.

BIA Emergency Aid to Tribal Governments: Covers destroyed or damaged homes, damaged property boundary markers, replacement of subsistence food and food harvesting equipment, solid waste collection and removal, and minor construction associated with infrastructure and homes.

USACE Continuing Authorities Program (CAP) Small Flood Risk Management: The Small Flood Risk Management Program (Section 205) provides a continuing authority for USACE to construct projects (structural or nonstructural) to reduce damages caused by flooding in urban areas, towns, and villages.

University of Alaska: Potential for a partnership with Alaska universities for research and assessment of archeological sites.

Alaska Native Interest Lands Conservation Act (ANILCA) Section 1318: Alaska Native groups and corporations may request assistance from the U.S Department of the Interior for the preservation, display, and interpretation of cultural resources.

Outstanding Drinking Water-Related Needs:

- The need for an assessment of the water treatment and distribution system was identified in multiple communities that were surveyed. These assessments should include consideration for resilience to natural hazards.

Outstanding Transportation-Related Needs:

- Well before Typhoon Merbok, a January 2009 USACE report concluded that all barge landings in coastal Alaska needed upgrades. Repairing and improvement barge landings will improve communities' food security, fuel delivery, and ability to recover from after future disasters. Runways, roads, trail markers, boardwalks, and bridges require upgrades.

Possible Funding Sources

Federal Highway Administration (FHWA) Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT): The Bipartisan Infrastructure Law (BIL) established the PROTECT Program to help make surface transportation more resilient to natural hazards, including climate change, sea level rise, flooding, extreme weather events, and other natural disasters through support of planning activities; resilience improvements; community resilience and evacuation routes; and at-risk costal infrastructure improvements.

Denali Commission Transportation Program: The program includes two major components (1) the roads portion of the program targets the planning, design, and construction of basic road improvements; and (2) the waterfront portion of the program addresses planning, design, and construction of port, harbor, and other rural waterfront needs. Eligible project types include, but are not limited to, regional ports, barge landings and docking facilities.

BIA Tribal Transportation Program: BIA, together with its partners at the FHWA, oversees planning, design, construction, and reconstruction of eligible transportation facilities through the Tribal Transportation Program. The BIA alone oversees the BIA Road Maintenance Program for the maintenance of BIA transportation facilities.

USDA NRCS Watershed Protection Programs: These programs can be used for restoring streambanks, restoring watershed habitat, restoring or decommissioning dams, and installing flood control measures.

In Alaska, this program has been used to restore boardwalks and move homes that threaten wildlife habitat and/or bodies of water.

U.S. Department of Housing and Urban Development (HUD) FY2023 Community Development Block Grant Program for Indian Tribes and Alaska Native Villages: Projects funded with Imminent Threat grant funds can address issues that have an immediate negative impact on public health or safety of tribal residents. Awards are made through a non-competitive process. Uses include repairing barge landings, repairing sewers, and moving threatened homes.

Economic Development Administration (EDA) Disaster Supplemental: Grant funding to address economic challenges in areas where a Presidential declaration of a major disaster was issued for disasters in 2021 and 2022.

USACE Continuing Authorities Program (CAP) Small Beach Erosion Control: Provides protection or restoration of public shorelines by construction of revetments and jetties.

Outstanding Energy Infrastructure-Related Needs

- Hazards including flooding and erosion caused and exacerbated energy infrastructure challenges in the communities surveyed. Identified projects include elevating the powerplant in Golovin, purchasing generators in Hooper Bay, relocating old energy infrastructure in flood-prone areas in Koyuk, and protective fencing for fuel storage tanks in St. Michael.

Possible Funding Sources

USDA Community Facilities Programs: Offers direct loans, loan guarantees and grants to develop or improve essential public services and facilities in communities across rural America.

Denali Commission: Solicits applications for rural infrastructure projects and workforce/economic development programs. § PA Public Assistance Grant Program - Provides supplemental grants to state, tribal, territorial, and local governments, and certain types of private non-profits so communities can quickly respond to and recover from major disasters or emergencies.

BIA Tribal Electrification Program: For (1) the provision of electricity to unelectrified Tribal homes through zero-emissions energy systems; (2) transitioning electrified Tribal homes to zero emissions energy systems; and (3) associated home repairs and retrofitting necessary to install the zero-emissions energy systems.

2.6.8 Conclusion

As this Mitigation Needs Assessment makes clear, there are at least eleven natural hazards that pose considerable risk the most impacted and distressed (MID) areas by 2023 Typhoon Merbok. However, flooding, erosion, permafrost degradation, land subsidence, and severe weather are the most frequent and highest risks present throughout the impacted areas. Alaska is unique in the U.S. because of how permafrost interacts with flooding and erosion to exacerbate the impacts of these hazards. Frozen ground can disintegrate under the compounding influences of permafrost thaw, flooding, and erosion in an escalating feedback loop that can result in damage that is much greater than would be expected from the individual processes alone (State of Alaska HMP 2023). By characterizing these hazards in terms of their frequency and the area's vulnerability, the State of Alaska and its recovery partners can draw on this needs assessment to identify current and future hazards in their communities and target CDBG-DR

funds toward cost-effective solutions to mitigate them over the long term. In addition, this assessment will inform all CDBG-DR programs and activities undertaken as part of this allocation such that, at a minimum, they do not exacerbate hazards but rather serve to lessen their impacts.

At least 15% of the CDBG-DR funds will be used for mitigation. For housing activities, mitigation funds will be used to reduce risks to people and property through the elevation or buyout of homes in high-risk areas and encourage the use of high quality and durable building materials. CDBG-DR funds can be used to develop and update hazard mitigation plans and then implement the identified mitigation activities. To the extent they are not already fully funded through other sources, it is recommended that CDBG-DR planning funds be allocated to develop and/or update HMPs in the affected regions.

- **Priority 1:** Jurisdictions with no HMP and Jurisdictions with expired HMPs
- **Priority 2:** Regional organizations (Kawerak and AVCP) to protect assets utilized across jurisdictions
- **Priority 3:** Confirm that those jurisdictions that completed HMPs shortly before or after Typhoon Merbok identified infrastructure impacts that may not have been captured during the planning process due to submittal and review timing or were not evident until the following spring.

3. General Requirements

3.1. Citizen Participation

3.1.1. Outreach and Engagement

The State of Alaska Department of Commerce, Community, and Economic Development (DCCED) Stakeholder Engagement Plan for the 2022 Typhoon Merbok disaster is based on the requirements outlined in the Federal Register, Vol. 88, No. 96, Thursday, May 18, 2023. The most current version of the Stakeholder Engagement Plan will be shared on the official DCCED website at https://www.commerce.alaska.gov/web/dcra/GrantsSection/CDBG-DR-Merbok.aspx.

This Action Recovery Plan has been drafted and released in the interest of expediting recovery funding to address known unmet needs linked to or exacerbated by Typhoon Merbok. The information presented here is based on best available data; data gaps and / or limitations uncovered through the process have been identified for further investigation during the stakeholder engagement process. The Stakeholder Engagement Plan outlined here will commence in August 2025 and will refine the details of the Action Recovery Plan with input from the public. Revisions and updates will be published in Substantial Amendment #1 in 2026.

During the engagement process, the State of Alaska will consult with disaster-affected citizens, Tribal and Indigenous leaders and communities, local governments, public housing authorities, and other affected parties in the surrounding geographic area to ensure consistency of disaster impacts identified in the plan, understand relative urgency of unmet needs and mitigation strategies, and ensure the plan and planning process are comprehensive and representative.

> *"Alaska Native people have survived and thrived for thousands of years in some of the harshest environments on earth and have a wealth of knowledge about how to adapt to changing environmental conditions. This Indigenous knowledge is key to mitigating environmental threats to infrastructure."*
>
> *- ANTHC [Alaska Native Tribal Health Consortium] 2024. Unmet Needs of Environmentally Threatened Alaska Native Villages: Assessment and Recommendations.*

The State of Alaska will ensure access and equal opportunity to programs for individuals with disabilities and persons with Limited English Proficiency (LEP), including making appropriate ADA accommodations and providing translation services where applicable. All planned communications and information gathered through the citizen participation process will be compliant with Title II of the American with Disabilities Act of 1990.

Informational Resources and Outreach Materials

The State of Alaska has developed outreach materials to inform residents and stakeholders of the process, timeline, and requirements associated with the CDBG-DR award. All materials are shared publicly on the State's CDBG-DR website:

- *State of Alaska CDBG-DR Typhoon Merbok Overview Presentation*: This presentation provides an overview of the disaster, the CDBG-DR allocation and purpose, timeline and process to develop the Unmet Needs Assessment and Action Recovery Plan, and ways to stay engaged in the process.
- *(Forthcoming) Unmet Needs Assessment Survey*: This survey was designed to collect input on the unmet needs linked to or exacerbated by Typhoon Merbok. The survey is intended to reach residents, businesses, Tribal Nations and organizations, regional service organizations, and government agencies living in or serving MID communities.
- *Other key documents, reports, and resources*: Materials related to the CDBG-DR process, notices, and plans can be found linked on the public website. These materials are refreshed throughout the process.

Stakeholder Engagement

The State of Alaska recognizes that affected stakeholders are the center of and partners in the development and implementation of this plan. Due to the geographic scope of the impacted areas and remoteness of the MID communities, the State of Alaska developed a robust Stakeholder Engagement Plan to define and lay the groundwork for a successful outreach and participation process. This Stakeholder Engagement Plan will be posted on the website here: https://www.commerce.alaska.gov/web/dcra/GrantsSection/CDBG-DR-Merbok.aspx.

Various opportunities for engagement and input will be provided throughout the stakeholder engagement process. Notification of the input opportunities depends on the type of engagement and varies from direct outreach to broad distribution on social media. Steering Committee members were identified through direct outreach to regional organizations from the impacted region to guide stakeholder engagement planning. A formal nomination process will be developed and implemented to identify regional delegates to attend Regional Meetings. The survey will be more widely distributed and will be promoted via social media, the CDBG-DR website, radio ads, newspaper ads, and other local postings.

Following is a summary of proposed stakeholder engagement activities and events:

Table 55. Summary of proposed stakeholder engagement activities and events

Activity & Brief Description	Proposed Stakeholders	Timeline
Steering Committee To support and amplify stakeholder engagement activity and contribute or identify relevant data needed to complete the unmet needs assessment.	Invited participants from key regional organizations (e.g., housing authorities, Tribal entities, regional service organizations).	July 2025 - September 2026
Unmet Needs Survey To collect input on the unmet needs linked to or exacerbated by Typhoon Merbok, how CDBG-DR funds should be prioritized, and identify obligated / available and disbursed / deployed funding for unmet needs.	The survey is intended to reach residents, businesses, Tribal Nations and organizations, regional service organizations, and government agencies living in or serving MID communities.	September 2025 - March 2026
Community Site Visits To gather input on unmet needs linked to or exacerbated by Typhoon Merbok and ensure comprehensive representation across MID communities.	Site visits will strategically fill gaps in engagement from other activities. Specific number, timing, and communities will be determined during the process.	September 2025 - March 2026
Regional Meetings To deepen understanding of shared and unique needs among MID communities, inform funding allocation priorities, and identify obligated / available and disbursed / deployed funding for unmet needs.	Delegates from each MID community will be selected by that community through a nomination process (to be announced).	November 2025 - April 2026
Regional Events To promote the Typhoon Merbok CDBG-DR planning process, selection of delegates for Regional Meetings, and survey completion among key stakeholders.	Specific events will be identified during the planning process, events that reach multiple MID communities may be prioritized with input from the Steering Committee.	November 2025 - April 2026
Public Hearings To launch the public comment period and take public comments / testimony for the draft Action Recovery Plan (ARP) and / or Substantial Amendment #1 (SA#1).	These public hearings will be open to and promoted among MID communities and intend to reach community members, local entities, Tribal organizations, regional service organizations, and government agencies.	*(Tentative)* September 2025 (ARP) and September 2026 (SA#1)

The following key State, Tribes, local governments, Federal partners, nongovernmental organizations, and the private sector have been invited to support and amplify the stakeholder engagement process by serving on the Steering Committee:

- Alaska Housing Finance Corporation
- Alaska Native Tribal Health Consortium
- Aleutian Housing Authority
- Aleutian Pribilof Islands Association

- Association of Village Council Presidents
- Association of Village Council Presidents Regional Housing Authority
- Bering Strait Regional Housing Authority
- City of Saint Paul
- Kawerak, Inc.
- Stebbins Housing Authority
- Unalakleet Housing Authority

Public Comment Period

In addition to the activities above and before the State of Alaska adopts the Action Plan and Substantial Amendment, the State of Alaska has published this action plan on https://www.commerce.alaska.gov/web/dcra/GrantsSection/CDBG-DR-Merbok.aspx for a 30-day public comment period. Access to the public review draft was posted on the project website and promoted through public and local channels via the Steering Committee's input and in accordance with requirements outlined in the Federal Register. Notice was distributed among affected communities via email, social media, newspaper and radio advertisements, and through local and regional service organizations.

The State of Alaska ensures that all citizens have equal access to information, including persons with disabilities (vision and hearing impaired) and limited English proficiency (LEP). Translations of key documents will be published in English, Inupiaq, Yupik, Cup'ig, and Aleut; published materials will meet 508 compliance standards.

DCCED will take comments via mail, email, fax, or through the DCCED's project website:

Brandon McNaughton
Division of Community and Regional Affairs
Department of Commerce, Community, and Economic Development
Location: Anchorage
Phone: (907) 269-4501
Fax: (907) 269-4563
Email: brandon.mcnaughton@alaska.gov

Anita Baker
Division of Community and Regional Affairs
Department of Commerce, Community, and Economic Development
Location: Anchorage
Phone: (907) 269-4252
Fax: (907) 269-4563
Email: anita.baker@alaska.gov

A summary of citizen comments on this action plan, along with the State of Alaska's responses, will be included in the appendices and submitted to HUD with the Action Plan and Substantial Amendment.

3.1.2. Public Hearings

Public meetings to hear comments and testimony related to the draft Action Recovery Plan and Substantial Amendment #1 are planned for September 2025 and September 2026, respectively. Notification regarding the public meeting details will be distributed via the following methods, with input and refinement from Steering Committee members:

- Social media posts
- Newspapers
- Radio ads

- Local announcement boards in communities

The public hearing will include a basic overview of the CDBG-DR process and summary of comments collected. The location and format of the hearings will be confirmed with Steering Committee input and prioritize equal access, including for persons with disabilities and limited English proficiency (LEP).

Comments and input gathered during the public hearings will be incorporated into the draft before submitting it to HUD. A summary of comments, along with the State of Alaska's responses, will be included in the appendices and submitted to HUD with the Action Plan and Substantial Amendment #1.

3.1.3. Complaints

Complaints alleging violation of fair housing laws will be directed to HUD for immediate review. Complaints regarding fraud, waste, or abuse of funds will be forwarded to the HUD OIG Fraud Hotline (phone: 1-800-347-3735 or email: hotline@hudoig.gov). The State of Alaska will make available to HUD detailed Fraud, Waste, and Abuse Policies and Procedures on *https://www.commerce.alaska.gov/web/dcra/GrantsSection/CDBG-DR-Merbok.aspx* to demonstrate adequate procedures are in place to prevent fraud, waste, and abuse.

Complaints may be filed at: https://ak-ombuds.i-sight.com/portal or can be submitted via mail, email, or telephone:

Alaska Ombudsman
1500 West Benson Blvd.
Anchorage, AK 99503
Email: ombudsman@akleg.gov
Phone: (907) 269-5290

3.2. Public Website

The State of Alaska will maintain a public website that provides information accounting for how all grant funds are used, managed, and administered, including links to all disaster recovery action plans, action plan amendments, program policies and procedures, performance reports, citizen participation requirements, and activity and program information described in this plan, and details of all contracts and ongoing procurement processes.

These items are made available through https://www.commerce.alaska.gov/web/dcra/GrantsSection/CDBG-DR-Merbok.aspx. Specifically, DCCED/DCRA will make the following items available: the action plan created using DRGR (including all amendments); each QPR (as created using the DRGR system); citizen participation plan; procurement policies and procedures; all executed contracts that will be paid with CDBG-DR funds as defined in 2 CFR 200.22 (including subrecipients' contracts); and a summary including the description and status of services or goods currently being procured by the grantee or the subrecipient (e.g., phase of the procurement, requirements for proposals, etc.). Contracts and procurement actions that do not exceed the micro-purchase threshold, as defined in 2 CFR 200.67, are not required to be posted to a grantee's website.

In addition, the State of Alaska will maintain a comprehensive website regarding all disaster recovery activities assisted with these funds.

The website will be updated in a timely manner to reflect the most up-to-date information about the use of funds and any changes in policies and procedures, as necessary. At a minimum, updates will be made monthly.

3.3. Amendments

Over time, recovery needs will change. The State of Alaska will amend the disaster recovery action plan as often as necessary to best address our long-term recovery needs and goals. This plan describes proposed programs and activities. As programs and activities develop over time, an amendment may not be triggered if the program or activity is consistent with the descriptions provided in this plan. Programs subject to change based on citizen engagement feedback.

3.3.1. Substantial Amendment

A change to this action plan is considered to be a substantial amendment if it meets the following criteria:

- A change in program benefit or eligibility criteria,
- The addition or deletion of an activity, or
- The allocation or reallocation of $3,849,300 or 10% of the allocation.

When the State of Alaska pursues the substantial amendment process, the amendment will be posted here at https://www.commerce.alaska.gov/web/dcra/GrantsSection/CDBG-DR-Merbok.aspx for a 30-day public comment period. The amendment will be posted in adherence with ADA and LEP requirements. The State of Alaska will review and respond to all public comments received and submit to HUD for approval.

3.3.2. Non-substantial Amendment

A non-substantial amendment is an amendment to the plan that includes technical corrections and clarifications and budget changes that do not meet the monetary threshold for substantial amendments to the plan and does not require posting for public comment. The State of Alaska will notify HUD five (5) business days before the change is effective.

All amendments will be numbered sequentially and posted to the website into one final, consolidated plan.

3.4. Displacement of Person and Other Entities

To minimize the displacement of persons and other entities that may be affected by the activities outlined in this action plan, the State of Alaska will coordinate with the Alaska Housing Finance Corporation, the Aleutian Housing Authority, the Bering Straits Housing Authority, and the Association of Village Council Presidents Regional Housing Authority to minimize displacement. Should any

proposed projects or activities cause the displacement of people, the following policy has been adopted to ensure the requirements of Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (URA), as amended are met.

DCCED will make every effort to minimize temporary and permanent displacement of persons due to the delivery of HUD's CDBG-DR program it administers. DCCED will continue to minimize adverse impacts on persons of low-and-moderate income resulting from acquisition, rehabilitation, and/or demolition activities assisted with funds provided under Title 1 of the Housing and Community Development (HCD) of 1974, as amended, as described in 24 CFR 570.606 (b-g).

Furthermore, DCCED, may provide comprehensive training to its subrecipients to adopt the State's Residential Anti-Displacement and Relocation Assistance plan, which complies with the Uniform Relocation Assistance (URA) and Real Property Acquisition Policies Act of 1970, as amended, (42 U.S.C. 4601 et seq.), for any household, regardless of income which is involuntarily and permanent displaced.

The URA, is a federal law that establishes minimum standards for federally funded programs and projects, which require the acquisition of real property (real estate) or displace persons from their homes and businesses. The URA's protections and assistance apply to the acquisition, rehabilitation, or demolition of real property for federal or federally funded projects.

- 49 CFR Part 24 is the government-wide regulation that implements the URA.
- HUD Handbook 1378 provides HUD policy and guidance on implementing the URA and 49 CFR Part 24 for HUD funded programs and projects.

As part of condition of compliance with programs subject to URA, DCCED will:

- Provide uniform, fair, and equitable treatment of people whose real property is acquired or who are displaced in connection with federally funded projects as well.
- To ensure relocation assistance is provided to displaced persons to lessen the emotional and financial impact of displacement.
- To ensure that no individual or family is displaced unless decent, safe, and sanitary (DSS) housing is available within the displaced person's financial means.
- To help improve the housing conditions of displaced persons living in substandard housing.
- To encourage and expedite acquisition by agreement and without coercion.

DCCED's Local Buyout Program is voluntary and DCCED, and its subrecipients', will not utilize the power of eminent domain. While DCCED has no direct authority to perform eminent domain, it could request the Division of Administration to execute eminent domain on its behalf. Although DCCED does not intend to use the State's eminent domain authority, DCCED will follow the four-part criteria required of eminent domain under 49 CFR 24.101(b)(1) (i-iv) when presenting buyout as an option for buyout program applicants.

3.5. Protection of People and Property

DCCED has worked closely with Department of Military and Veterans Affairs/Division of Homeland Security & Emergency Management (DMVA/DHS & EM) on the development and maintenance of the State of Alaska Hazard Mitigation Plan 2023.

DCCED has encouraged the CDBG-DR eligible REAAs to restrict new development/re-development in Areas of Mitigation Interest/Natural Hazards.

The State of Alaska encourages disaster preparedness activities. Therefore, each household will be provided with handouts on Disaster Preparedness and Disaster Supply Kits as recommended on from the State of Alaska Division of Homeland Security & Emergency Management website: www.ak-prepared.com and Federal Emergency Management Agency website: www.ready.gov.

The State of Alaska/DCCED is in the process of creating a new Residential Anti-displacement and Relocation Assistance Plan (RARAP), which outlines how it will minimize displacement and provide relocation assistance, for the CDBG-DR, in accordance with III.C.1.f. and IV.F.7. of the Consolidated Notice. The State of Alaska/DCCED does not anticipate that any activities in this Action Plan will cause displacement.

3.5.1. Elevation Standards

For new construction, repair of substantially damaged, or substantial improvement structures principally for residential use and located in the 1 percent annual (or 100-year) floodplain must be elevated with the lowest flood, including the basement, at least two feet above the 1 percent annual floodplain elevation.

Mixed-use structures with no dwelling units and no residents must be elevated or floodproofed up to at least two feet above base flood elevation.

If a structure is located in a 500-year floodplain, the structure must be elevated three feet above the 100-year floodplain.

Unfortunately, many MID communities affected by Typhoon Merbok lack current floodplain mapping to establish a 100-year floodplain, meaning there is no standard established to which to build. Additionally, the lack of mapping precludes joining the NFIP program. This data gap creates cascading effects upon communities who cannot adequately mitigate against flooding or access federal flood insurance and recovery programs. For many communities, the highest benchmark will be the historical flood of record within that community.

3.5.2. Flood Insurance Requirements

Assisted property owners must comply with all flood insurance requirements. HUD-assisted homeowners for a property located in a Special Flood Hazard Area must obtain and maintain flood insurance in the amount and duration prescribed by FEMA's National Flood Insurance Program (NFIP). The State of Alaska may not provide disaster assistance for the repair, replacement or restoration of a property to a person who has received Federal flood disaster assistance that was conditioned on obtaining flood insurance and then that person failed to obtain or allowed their flood insurance to lapse for the property. The State of Alaska is prohibited by HUD from providing CDBG-DR assistance for the rehabilitation or reconstruction of a house if:

- The combined household income is greater than 120% AMI or the national median,
- The property was located in a floodplain at the time of the disaster, and

- The property owner did not maintain flood insurance on the damaged property.

To ensure adequate recovery resources are available to LMI homeowners who reside in a floodplain but who are unlikely to be able to afford flood insurance may receive CDBG-DR assistance if:

- The homeowner had flood insurance at the time of the qualifying disaster and still has unmet recovery needs, or
- The household earns less than 120% AMI or the national median and has unmet recovery needs.

Of the MID communities affected by Tyhpoon Merbok, only 4 participate in the NFIP:

- Bethel
- Emmonak
- Nome
- Shishmaref

While affected property owners in these 4 communities are capable of complying with HUD NFIP requirements, all other affected property owners are incapable of complying simply because their communities do not participate in the program.

“Another major obstacle is the lack of participation in the NFIP. In Alaska, many jurisdictions are ineligible to join the NFIP due to their inability to adopt and enforce a flood damage prevention ordinance. The 2022 Alaska Mapping Business Plan notes that the inability of many jurisdictions to adopt and enforce flood damage prevention ordinances is of concern because most of Alaska’s federally declared disasters involving flood or severe storm events have occurred in the Unorganized Boroughs within the Bethel, Kusilvak, and Yukon-Koyukuk census areas, where there are no residential building codes or flood damage prevention ordinances. Within these three census areas, only 9 of the 87 Alaska Native villages participate in the NFIP. More than half of the villages within these census areas are ineligible to participate in the NFIP. Similar to the lack of I-code adoption, one solution to overcoming the lack of code adoption would be to have greater public outreach around the importance of the NFIP.” (State of Alaska HMP 2023, p. 5-24).

3.5.3. Construction Standards

The State of Alaska has adopted several international building codes with amendments to meet Alaska-specific needs, as noted above. Jurisdictions within the Planning Area may have their own building regulations and permitting processes.

Alaska Housing Finance Corporation adopts the IRC for its residential standard and the IECC for its Building Energy Efficiency Standard. However, if a residential building is built outside of a jurisdiction with a residential code and without financing, it may not be built to meet the basic requirements of the IRC. In addition to lack of code adoption, there is limited code enforcement in Alaska. Many rural Alaskan communities lack the personnel and technical experience to carry out code enforcement responsibilities. One solution to overcoming the lack of code adoption would be to have greater public outreach around the importance of the IRC and IECC.” (State of Alaska HMP, 2023, p. 5-24).

For example: “…most of Alaska’s federally declared disasters involving flood or severe storm events have occurred in the Unorganized Boroughs within the Bethel, Kusilvak, and Yukon-Koyukuk census areas,

where there are no residential building codes or flood damage prevention ordinance" (State of Alaska HMP, 2023, p. 5-24).

In accordance with Alaska Statute (AS) 18.56.300, residential housing constructed on or after July 1, 1992, must undergo an approved inspection process to be eligible for financing by Alaska Housing Finance Corporation (AHFC). Only an authorized inspector may perform the required inspections. The purpose of the inspection is to provide oversight and to ensure compliance with current adopted building codes. All inspections are based on the 2018 International Residential Code (IRC) with AHFC amendments established by AS 18.56.300; inspection for structures with 4 dwellings must also meet the provisions set forth in 13 AAC 50.020 Building Code (AHFC 2020). According to the Alaska Housing Finance Corporation (AHFC), Nome is the only Municipality in the Planning Area complying with AS 18.56.300 (AHFC 2018).

The State of Alaska will require quality inspections and code compliance inspections on all projects and places an emphasis on high-quality, durable, sustainable, and energy efficient construction methods and materials. Site inspections will be required on all projects to ensure quality and compliance with building codes. State grantees may choose to add a sentence or two on how they will coordinate with localities to expedite the inspection and permitting process.

All rehabilitation, reconstruction, or new construction must meet an industry-recognized standard that has achieved certification under at least one of the following programs:

- Energy STAR (Certified Homes or Multifamily High Risk)
- Enterprise Green Communities
- LEED (New Construction, Homes, Midrise, Existing Building Operations and Maintenance or Neighborhood Development)
- ICC- 700 National Green Building Standards
- EPA Indoor AirPlus
- Any other equivalent comprehensive green building standard program acceptable to HUD

The State of Alaska will use Energy STAR for the proposed programs or activities.

In addition to the above standards, the State of Alaska will encourage communities in the planning area to incorporate research and recommendations from the Cold Climate Housing Research Center, where reasonable and cost-effective, to improve housing resilience to the extremes of the Alaskan climate.

For rehabilitation of non-substantially damaged residential buildings, the State of Alaska will follow the guidelines to the extent applicable as specified in the HUD CPD Green Building Retrofit Checklist.[5] When older or obsolete products are replaced as part of rehabilitation work, the rehabilitation is required to use ENERGY STAR-labeled, WaterSense-labeled, or Federal Energy Management Program (FEMP)-designed products and appliances.

[5] HUD CPD Green Building Retrofit Checklist. Available at: https://www.hudexchange.info/resource/3684/guidance-on-the-cpd-green-building-checklist/. Accessed August 25, 2025.

The definition of substantial damage is defined in 44 CFR 59.1[6] and applies to any reconstruction, rehabilitation, addition or other improvement to a structure, the total cost of which equals or exceeds 50% of the market value of the structure before the start of construction of the improvement.

The State of Alaska will utilize the UFAS Accessibility Checklist as a minimum standard for structures with five or more units to assist in the compliance of Section 504 of the Rehabilitation Act. The checklist will be used when reviewing the design of all newly constructed residential structures (other than privately owned residential structures). The Fair Housing Act (including the seven basic design and construction requirements set forth in the Fair Housing Act) also applies to buildings with four or more units. Titles II and III of the Americans with Disabilities Act also applies to public housing. For infrastructure projects, the State of Alaska will encourage, to the extent practicable, implementation of green infrastructure design and implementation, such as those issued by:

- U.S. EPA through their Green Infrastructure Design and Implementation guidance.
- HUD through their Green Infrastructure and Sustainable Communities Initiative.

All projects will be subject to cost reasonableness standards as outlined in the policies and procedures of the applicable program specific to the applicable activity. Industry standard cost-estimating software will be used to compare scopes of work and actual construction cost against location-specific indexes informed by historical construction costs for a given region.

To ensure energy efficiency in all new construction, reconstruction, and replacement activities, the State of Alaska will apply the Residential Building Energy Efficiency Standards (BEES). Developed by the Alaska Housing Finance Corporation, this standard combines and amends the IECC 2018 and ASHRAE 62.2 2016 (American Society of Heating, Refrigerating and Air-Conditioning Engineers standard on ventilation for acceptable indoor air quality in low-rise residential buildings).

The following building codes are adopted by the State of Alaska:

- 2021 International Building Code (IBC),
- 2021 International Existing Building Code (IEBC),
- 2018 International Energy Conservation Code (IECC),
- 2021 International Fire Code (IFC),
- 2021 International Fuel Gas Code (IFGC),
- 2021 International Mechanical Code (IMC), and
- 2018 International Residential Code (IRC).

Title 13 of the Alaska Administrative Code, Chapters 50 through 55, along with the above codes, make up Alaska State Building Code. The additional legislation in the administrative code creates Alaska specific amendments to account for the extreme climate of and the feasibility of construction techniques within the State of Alaska. Some boroughs may implement their own building codes, but the state code is the primary standard within the unorganized borough.

Because of the extremes of the Alaskan climate, building codes and practice must be tailored to meet the specific needs of the region. The Cold Climate Housing Research Center is a non-profit conducting practical research into advancing construction techniques in Alaska to better protect Alaskans and their

[6] Available at: https://www.ecfr.gov/current/title-44/chapter-I/subchapter-B/part-59. Accessed August 25, 2025.

homes. Where reasonable and cost-effective, the State of Alaska will encourage communities to incorporate CCHRC guidance in their design and procurement processes.

3.5.4. Contractor Standards

Construction of any kind is difficult throughout Alaska, even more so in remote villages disconnected from the road system. Selecting contractors capable of performing work in the region up to the standards required by the climate is of the utmost importance. The State of Alaska will work with and encourage MID communities to develop detailed RFPs, containing minimum requirements for the following:

- Licensed in the State of Alaska to do business
- Holds active professional licenses and insurance
- Able to post a bond for proposed construction
- Proven track record of similar construction in Western Alaska
- Can provide relevant and recent customer references for previous work similar to the proposed construction

Each community will have the ability to adjust their RFP to fit the needs of the community and specific hazards faced, but the State of Alaska recommends that each community works with an entity such as the Associated General Contractors of Alaska to tailor and disseminate these RFPs.

Each project will include an express warranty of 1 year from the completion of construction. Beneficiaries will be notified 6 months after construction, and 2 months before the end of the warranty period. This will allow beneficiaries the necessary time to gather evidence to dispute any defects in materials or workmanship of construction. These warranty notifications must be disseminated in a number of forms to ensure that every beneficiary is reached and knows their rights as a warranty holder.

The State of Alaska will require selected contractors to develop a warranty dispute process, which will take into consideration potential difficulties in the rural MIDs. These difficulties may include language barriers and the need for document translation, multiple avenues for making a warranty complaint where communication utilities are unreliable, the demands of subsistence lifestyles and important cultural events throughout the year, etc. To ensure that contractors are held responsible for any failings in materials or workmanship, MID communities should be involved directly in this process on behalf of beneficiaries.

Contractors selected under the State of Alaska will make every effort to provide opportunities to low and very-low income persons by providing resources and information to notify Section 3 individuals and businesses of opportunities in the community. Grantees may elaborate on specific steps to promote Section 3. The State of Alaska will report Section 3 accomplishments in the Disaster Recovery Grant Reporting (DRGR) system.

3.5.5. Preparedness, Mitigation, and Resiliency

Resilience refers to a community's ability to minimize damage and recover quickly from extreme events and changing conditions, including natural hazard risks. The State of Alaska defines community resilience as the ability to prepare for anticipated hazards, adapt to changing conditions, and withstand and recover from disruptions. Activities, such as disaster preparedness - which includes prevention, protection, mitigation, response, and recovery - are key steps to resilience. DHS&EM Resilience Section identifies the following core elements of Resilience:

- Local Knowledge
- Community networks and relationships
- Communication
- Health
- Governance and leadership
- Resources
- Economic investment
- Preparedness
- Mental outlook

The State of Alaska, having completed the statewide HMP in 2023, promotes the adoption of planning programs to increase community capabilities in the face of environmental disasters. The Resilience Section of the DHS&EM highlights the importance of the Small Community Emergency Response Plan (SCERP), Continuity of Operations Plans (COOP), and Hazard Mitigation Plans. Between these three plans, they cover the response, recovery, and mitigation phases of disaster, working in tandem to improve a community's preparedness for and resilience in the face of natural disasters.

The HMP process particularly espouses the spirit of resilience, in tailoring the plan to a community's needs and priorities. It creates the opportunity for communities to integrate, protect, and further their cultural heritage, both a tangible and intangible community asset so important throughout all Native Alaskan Tribes.

Out of the 56 MID communities affected by Typhoon Merbok, 29 have active and approved HMPs. Of those without active plans, 21 communities have completed at least one HMP in the past; 8 of which are currently pursuing plan updates or funding for plan updates; and only 6 have never completed a plan.

In many cases, the HMP serves many outcomes, from providing historical context to the communities and the hazards they face, to identifying data gaps, and charting a path forward for more resilient communities. Many of the active plans in the MID communities include activities like joining the NFIP, constructing new critical facilities built to adhere to the State adopted building codes, and education and outreach to citizens on local hazards and mitigation efforts. Similarly, though these communities may lack a mapped 100-year floodplain, the HMPs contain mitigation activities directing development away from identified mitigatable hazard zones and mapping of historical disasters to provide context for these potential hazard zones. All the information contained within works to support other local planning efforts, such as a Land Use Plan, which can codify and direct future development away from hazard zones first identified in an HMP. Similarly, as the HMP is a record of disasters affecting a community, planning teams can use the plan during post-disaster evaluations to corroborate hypotheses and

assumptions to further tailor and inform future community development away from potential hazard zones.

Due to differing local priorities and capacity, as well as the scope of potential mitigation actions, an average cost of mitigation strategies in HMPs is not indicative of cost effectiveness. Many can be accomplished with existing staff and funds, while others require significant investment over many years. However, planning teams must consider each mitigation action for its technical feasibility, benefit vs. cost, and as a priority of local mitigation priorities. The State of Alaska will use this prioritization already completed to compare the proposed mitigation actions against alternative mitigation actions and their relative costs.

Each CDBG-DR program and activity includes measures that will increase resilience to disasters and reduce or eliminate the long-term risk of life, injury, damage to and loss of property, and suffering and hardship by lessening the impact of future disasters. This includes construction activities, public services, and/or planning activities.

3.5.6. Broadband and Infrastructure in Housing

Broadband infrastructure is defined as cables, fiber optics, wiring, or other permanent (integral to the structure) infrastructure that is capable of providing access to Internet connections in individual housing units that meet the definition of "advanced telecommunications capability" determined by the Federal Communications Commission under section 706 of the Telecommunications Act of 1996[7] (47 U.S.C. 1302).[8]

Any substantial rehabilitation, as defined by 24 CFR 5.100,[9] reconstruction, or new construction of a building with more than four rental units must include installation of broadband infrastructure in each unit, except where the grantee documents that:

- the location of the new construction or substantial rehabilitation makes installation of broadband infrastructure infeasible;
- the cost of installing broadband infrastructure would result in a fundamental alteration in the nature of its program or activity, or in an undue financial burden; or
- the structure of the housing to be substantially rehabilitated makes installation of broadband infrastructure infeasible.

3.5.7. Cost-effectiveness

The State of Alaska will establish policies and procedures to assess the cost-effectiveness of each proposed program or activity to assist a household under any residential rehabilitation or reconstruction program or activity funded with CDBG-DR funds. Policies and procedures also will establish the criteria for determining when the cost of the rehabilitation or reconstruction of the unit will not be cost-

[7] Available at: https://www.congress.gov/104/plaws/publ104/PLAW-104publ104.htm. Accessed August 25, 2025.

[8] Available at: https://www.govinfo.gov/content/pkg/USCODE-2023-title47/pdf/USCODE-2023-title47-chap12-sec1302.pdf. Accessed August 25, 2025.

[9] Available at: https://www.ecfr.gov/current/title-24/subtitle-A/part-5/subpart-A/section-5.100. Accessed August 25, 2025.

effective relative to other means of assisting the property owner. In some cases, buyout may be a more cost-effective alternative.

A demonstrable hardship may be claimed by a program applicant requesting assistance that exceeds program limitations. The Alaska Housing Finance Corporation defines hardship, in their Step program, as:

- The family must have an extraordinary change in life circumstances that significantly impacts the family's income; AND
- The hardship must be of long-term or permanent duration (at least 90 days); AND
- The hardship must cause the family to experience a shelter burden in excess of 50 percent of gross or adjusted monthly income.

Some structures may not be suitable for rehabilitation. This determination may look different in each community depending on local mitigation priorities, mapped hazard zones, and future land use planning. However, the State of Alaska will mandate the following minimum standards for disqualifying a structure from rehabilitation

- The structure has received substantial damage (the cost to repair is 50% or greater than the pre-damage market value)
- The structure is sited within a mapped hazard zone and may be damaged in similar, future disasters, as identified by local land use planning, NFIP, or HMP

The State of Alaska may grant exceptions on a case-by-case basis to the maximum amount of assistance or cost-effective criteria. The State will adopt procedures to ensure fair and standardized application of exceptions for beneficiaries who may require greater accommodations, such as for medical or disability needs.

3.5.8. Duplication of Benefits

A duplication of benefits occurs when an impacted person, household, business, government, or other entity receives financial assistance from multiple sources such as FEMA, USACE, EDA, insurance, etc. for the same purpose, and the total assistance received for that purpose is more than the total need for assistance.

Section 312 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act,[10] as amended, generally prohibits any person, business concern, or other entity from receiving financial assistance with respect to any part of a loss resulting from a major disaster for which such person, business concern, or other entity has received financial assistance under any other program or from insurance or any other source.

To comply with Section 312, the State of Alaska shall ensure that each program and activity provides assistance to a person or entity only to the extent that the person or entity has a disaster recovery need that has not been fully met.

[10] Available at: https://www.govinfo.gov/content/pkg/COMPS-2977/pdf/COMPS-2977.pdf. Accessed August 25, 2025.

Typhoon Merbok and its effects upon the communities of Western Alaska became a presidentially declared disaster on August 23rd, 2023, paving the way for public and individual assistance through FEMA. These funding mechanisms provided almost $12.5 million to affected communities, as well as $96,000 under the HMPG. This assistance will form the basis of duplication of benefits determination. Additional funding sources will be assessed to ensure there is no duplication of benefits, including:

- FEMA IA
- FEMA PA
- SBA Disaster Recovery (Homeowner, Business, EIDL)
- Private insurance
- USACE

4. Grantee-proposed Use of Funds

4.1. Overview

The State of Alaska, Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs, Grants and Funding Section is the lead agency and responsible entity for administering $38,493,000 in CDBG-DR funds in response to FEMA Disaster #4672 2022-Typhoon Merbok. These programs include:

- Housing
- Mitigation
- Administration
- Resilience Planning

4.2. Program Budget

The allocations below are based on the best currently available data and reflect portions of need to support the programs. Adjustments may be made in future based on feedback from citizen engagement in 2025-2026, and/or once the programs are implemented.

Table 56. Proposed CDBG-DR Budget Allocation for AK-DR-4672 Typhoon Merbok (2022)

Program Category	Program	Budget	HUD-Identified MID Budget	State - Identified MID Budget	Percent of Allocation	Maximum Award	National Objective	Estimated Outcome
Housing	New Construction	$ 25,773,400	$20,618,720	$5,154,680	67.0%	$20,618,720	LMI, UN	2
Mitigation	Mitigation	$ 5,021,000	$4,016,800	$1,004,200	13.0%	$4,016,800	LMI, UN	2
Administration	Administration	$ 1,924,650	n/a	n/a	5.0%	n/a	n/a	n/a
Planning	Planning	$ 5,773,950	n/a	n/a	15.0%	n/a	n/a	n/a
Total		**$38,493,000**	**$24,635,520**	**$6,158,880**	**100.0%**			

4.3. Connection to Unmet Needs

Allocation Requirements

As required by Federal Register Vol. 88, No. 96. May 18, 2023, the program budget allocates at least 80 percent of the funds to address unmet needs in HUD-identified "most impacted and distressed" (MID) areas, and up to 20 percent of the remaining funds in State-identified MID areas, as described below:

- **HUD-identified "most impacted and distressed" areas:** A minimum of $30,794,400 (80% of total CDBG-DR allocation for unmet needs from Public Law 117-328 for FEMA disaster No. 4672) must be allocated to HUD-identified MIDs.

  - Bering Straits Regional Education Attendance Area (Nome Census Area): Brevig Mission, Diomede, Elim, Gambell, Golovin, Koyuk, Nome, Saint Michael, Savoonga, Shishmaref, Stebbins, Teller, Unalakleet, Wales, and White Mountain.
  - Kashunamiut Regional Education Attendance Area (Kusilvak Census Area): Chevak.
  - Lower Yukon Regional Education Attendance Area (Kusilvak Census Area): Alaknuk, Emmonak, Hooper Bay, Kotlik, Marshall, Mountain Village, Nunam Iqua, Pilot Station, Russian Mission, Saint Mary, and Scammon Bay.

- **State-identified "most impacted and distressed" areas:** Up to $7,698,600 (20% of total CDBG-DR allocation for unmet needs from Public Law 117-328 for FEMA disaster No. 4672) may be allocated to State-identified MIDs.
  - Lower Kuskokwim and Yupiit Regional Education Attendance Areas (Bethel Census Area): Akiachak, Akiak, Atmautluak, Bethel, Chefornak, Eek, Goodnews Bay, Kasigluk, Kipnuk, Kwethluk, Kwigillingok, Mekoryuk, Napakiak, Napaskiak, Newtok, Nightmute, Nunapitchuk, Oscarville, Platinum, Quinhagak, Tuluksak, Tuntutuliak, Tununak, and Toksook Bay.
  - Pribilof Islands Regional Education Attendance Area (Aleutians West Census Area): Saint George and Saint Paul.

Mitigation: A minimum of $5,021,000 must be used for mitigation activities (CDBG-DR mitigation set-aside from Public Law 117-328 for FEMA disaster No. 4672). Infrastructure improvements that support housing, resiliency planning and mitigation needs will be prioritized to safeguard against future disasters. Mitigation measures will be incorporated into new construction projects to ensure future resilience. This plan proposes to allocate 80 percent of the mitigation set-aside to the HUD-identified MIDs and 20% to the State-identified MIDs.

Housing: With some of the highest rates of overcrowding in the nation, these MID areas experienced significant pre-disaster unmet needs for housing, which was only exacerbated by Typhoon Merbok in impacted communities. This plan allocates funds to address unmet needs for housing through construction of new housing to meet a portion of the pre-disaster unmet need and to give families whose homes were impacted by Typhoon Merbok a place for relocation. This plan proposes to allocate 80 percent of the housing program to the HUD-identified MIDs and 20% to the State-identified MIDs. Funding may be subawarded to the State's public housing provider and/or one of the Tribally Designated Housing Entities (TDHE) that serve the MID areas for the construction of new housing construction that serves LMI and vulnerable populations.

Planning: This budget includes an allocation to the State of Alaska for planning activities. Once program operations are underway, the State may reallocate some or all of the planning allocation to fund eligible planning activities by or for MID communities. This plan recommends prioritizing assistance to develop or update Hazard Mitigation Plans (HMPs) in the 29 MID communities that do not have a current FEMA-approved, locally adopted HMP, over half the identified MID communities. This prioritization allows those communities to be better prepared for future hazards and potential disasters and makes them eligible for disaster recovery funding in future. The State is working to integrate Hazard Mitigation Planning into other community development plans and development studies. Should the State of Alaska

make this change, a substantial amendment to this Public Action Plan will be submitted to HUD. Strategic housing plans for the MID areas may also be prioritized.

National Objectives

The program budget primarily advances the national objective of Low- to Moderate-Income (LMI).

Low- to Moderate-Income (LMI): To meet the Low- to Moderate-Income objective, at least 70 percent of all program funds will benefit LMI persons or households. CDBG-DR funded projects and activities will be required to meet this threshold.

Other national objectives are to aid in the prevention or elimination of slums or blight (S/B), or to meet an Urgent Need (UN). The Urgent Need objective is met if the program funds meet an urgent community development need because existing conditions pose a serious and immediate threat to the health or welfare of the communities, where other financial resources are unavailable to meet such needs. The Urgent Need national objective will only be used when an LMI national objective cannot be achieved through the project, but the project has demonstrable recovery or mitigation benefits within the most impacted and distressed (MID) areas. Urgent Need has a 36-month limitation, which will occur on May 17, 2026 for this CDBG-DR allocation.

Unmet Needs

This action plan primarily considers and addresses unmet needs for housing and infrastructure to support housing, which were determined to have the highest remaining unmet need through the unmet needs assessment. Economic revitalization is also a significant unmet need in this region; however, housing was determined to have greater urgency at this time.

4.4. Leveraging Funds

The State of Alaska/DCCED anticipates leveraging CDBG-DR funds with other federal, state, local, private and/or nonprofit funding programs to increase its ability to address and mitigate against major disasters. To maximize benefit, the State of Alaska anticipates leveraging CDBG-DR funds with federal funding sources such as FEMA Public Assistance/Individual Assistance/Hazard Mitigation Grant Programs as well as other State and local grant programs that require a match.

The housing program(s) will leverage other funding sources by requiring or providing matching funds for eligible projects. Projects that maximize impact by leveraging other funding sources will be prioritized in the selection and award of funds. Federal funding for housing typically includes HUD CDBG, HUD ICDBG, HUD IHBG, BIA Housing programs, USDA Rural Development, and NAHASDA.

Duplication of Benefits

CDBG-DR funds will be used to address critical unmet needs that remain after all other funding sources have been committed and exhausted to prevent any duplication of benefits. Additional funding sources that are important to document for the purposes of leveraging disaster recovery funds and ensure duplication of benefits (DOB) compliance include: FEMA, Small Business Administration (SBA), and private insurance. Currently available data specific to these sources are provided in the unmet needs

assessment included in this plan. Additional funding sources that may constitute a duplication of benefits will be evaluated on a project-specific basis.

4.5. Program Partners

The State of Alaska will actively coordinate and partner with entities serving the MID areas, as appropriate to each program, through subrecipient agreements, interagency agreements and informal partnerships. Program partners include:

- Alaska Department of Homeland Security and Emergency Management (DHS&EM), state grantee for FEMA funds.
- Alaska Department of Environmental Conservation (ADEC), state regulatory body for sanitation (if CDBG-DR funded programs involve water, wastewater or other sanitation infrastructure).
- Army Corps of Engineers, Alaska District.
- Alaska Native Tribal Health Consortium (ANTHC), which assists with planning and construction of hazard mitigation projects and sanitation infrastructure for communities within the MID areas.
- Cities and Tribal governments within the MID areas.
- Non-profit service organizations, including the Association of Village Council Presidents (AVCP), Kawerak Inc., and the Aleutian and Pribilof Islands Association (APIA).
- The Alaska Housing Finance Corporation (AHFC), the State's public housing provider.
- Tribally Designated Housing Entities (TDHEs) that serve the MID areas, including the Bering Strait Regional Housing Authority (RHA) and the Association of Village Council Presidents Regional Housing Authority (AVCP RHA).

These partnerships are involved in the development of the public action plan, as well as determining the best form for ongoing engagement (e.g., through subrecipient agreements, MOUs, or ongoing coordination).

When engaging in formal agreements for the administration or implementation of programs, the State of Alaska will perform a pre-award risk assessment on each subrecipient to ensure that subrecipients have the capacity and expertise to carry out the program activities included in their scope of work. All such partners will be selected based on qualifications and documented successful experience in administering or providing specialized services associated with CDBG-DR recovery and compliance.

CDBG-DR grantees (in this case, the State of Alaska) are responsible for ensuring that all housing associated with CDBG-DR funds is made available on a non-discriminatory basis: that is, without regard to race, color, religion, sex, disability, familial status, age or national origin. This responsibility includes monitoring program outcomes on an ongoing basis to identify and eliminate barriers to participation by protected classes, preventing or mitigating unintended discriminatory impacts. Discriminatory housing practices may include any action in which an individual or class of individuals in a specific protected class is treated differently than others who are not in that protected class, when the result of that action denies the individual/class of individuals equal access to or benefit of a housing opportunity.

4.6. Distribution of Funds

The distribution of program funds described below is based on the best currently available data. While many Housing, Infrastructure, Mitigation and Planning disaster recovery actions were documented in Interagency Recovery Coordination (IRC) data, the October 2023 Recovery Strategy (Federal/State) DR-4672-AK, October 2023 Recovery Needs Assessment (Federal/State), 2024 ANTHC Unmet Needs of Environmentally Threatened Alaska Native Villages, local and tribal Hazard Mitigation Plans, and/or other sources for the MID areas, this Action Recovery Plan focuses on mitigating unmet housing need in the MID areas. The CDBG-DR Mitigation set-aside focuses on flood and erosion control measures in MID areas, as these were the most frequently documented hazard mitigation action. Adjustments may be made in future based on feedback from citizen engagement in 2025-2026 and incorporated into a Substantial Amendment to this Action Recovery Plan.

Housing: This plan allocates $25,773,400, or 67 percent of CDBG-DR funding to eligible subrecipient(s) for new housing construction. At least eighty (80) percent of these funds ($20,618,720) are to address unmet need in the:

- Bering Straits Regional Education Attendance Area (Nome Census Area): Brevig Mission, Diomede, Elim, Gambell, Golovin, Koyuk, Nome, Saint Michael, Savoonga, Shishmaref, Stebbins, Teller, Unalakleet, Wales, and White Mountain.
- Kashunamiut Regional Education Attendance Area (Kusilvak Census Area): Chevak.
- Lower Yukon Regional Education Attendance Area (Kusilvak Census Area): Alaknuk, Emmonak, Hooper Bay, Kotlik, Marshall, Mountain Village, Nunam Iqua, Pilot Station, Russian Mission, Saint Mary, and Scammon Bay.

Up to twenty (20) percent of these funds ($5,154,680) may address unmet need in the:

- Lower Kuskokwim and Yupiit Regional Education Attendance Areas (Bethel Census Area): Akiachak, Akiak, Atmautluak, Bethel, Chefornak, Eek, Goodnews Bay, Kasigluk, Kipnuk, Kwethluk, Kwigillingok, Mekoryuk, Napakiak, Napaskiak, Newtok, Nightmute, Nunapitchuk, Oscarville, Platinum, Quinhagak, Tuluksak, Tuntutuliak, Tununak, and Toksook Bay.
- Pribilof Islands Regional Education Attendance Area (Aleutians West Census Area): Saint George and Saint Paul.

Mitigation: This plan allocates the mitigation set-aside of $5,021,000 of CDBG-DR funding to eligible subrecipient(s) for flood and erosion mitigation measures. At least eighty (80) percent of these funds ($4,016,800) are to address unmet need in the:

- Bering Straits Regional Education Attendance Area (Nome Census Area): Brevig Mission, Diomede, Elim, Gambell, Golovin, Koyuk, Nome, Saint Michael, Savoonga, Shishmaref, Stebbins, Teller, Unalakleet, Wales, and White Mountain.
- Kashunamiut Regional Education Attendance Area (Kusilvak Census Area): Chevak.
- Lower Yukon Regional Education Attendance Area (Kusilvak Census Area): Alaknuk, Emmonak, Hooper Bay, Kotlik, Marshall, Mountain Village, Nunam Iqua, Pilot Station, Russian Mission, Saint Mary, and Scammon Bay.

Up to twenty (20) percent of funds ($1,004,200) may address unmet need in the:

- Lower Kuskokwim and Yupiit Regional Education Attendance Areas (Bethel Census Area): Akiachak, Akiak, Atmautluak, Bethel, Chefornak, Eek, Goodnews Bay, Kasigluk, Kipnuk, Kwethluk, Kwigillingok, Mekoryuk, Napakiak, Napaskiak, Newtok, Nightmute, Nunapitchuk, Oscarville, Platinum, Quinhagak, Tuluksak, Tuntutuliak, Tununak, and Toksook Bay.
- Pribilof Islands Regional Education Attendance Area (Aleutians West Census Area): Saint George and Saint Paul.

Administration: The State of Alaska will retain the full 5% allocated for administrative costs associated with the CDBG-DR allocation for purposes of oversight, management, and reporting. State administrative costs including subrecipient administration costs will not exceed five (5) percent, $1,924,650. Pursuant to 24 CFR§58.34(a)(3), except for applicable requirements of 24 CFR §58.6, administrative and management activities are exempt activities under this Action Plan. Once contracted, the State of Alaska will allow the drawdown of pre-agreement costs associated with eligible disaster recovery activities dating back to the date of the disaster (September 22, 2022) for subrecipients and the State of Alaska with appropriate documentation.

Planning: The State of Alaska will retain the full 15% allocated for planning associated with the CDBG-DR allocation ($5,773,950). All planning funds will be used for studies which directly impact the HUD and State-identified MID areas. The Planning Program will provide grant assistance for recovery and mitigation planning to meet the community's recovery and mitigation objectives as informed by the approved local hazard mitigation plans and other local priorities. The program aims to reduce long-term risk and increase local resilience through planning efforts that identify and prioritize mitigation projects with cost estimates and actions needed to move those projects into implementation.

4.7. Pre-agreement Costs

Section III.F.4 of the Consolidated Notice (Federal Register, Vol. 88, No. 96, Thursday, May 18, 2023) permits a state grantee to reimburse itself, in accordance with 24 CFR 570.489(b), for otherwise allowable costs incurred by the grantee or its subrecipients on or after the incident date of the covered disaster (September 20, 2022) but prior to the execution of a grant agreement with HUD. This includes, but is not limited to, activities supporting program development, action plan development, stakeholder engagement and other qualifying eligible costs. The State of Alaska/DCCED incurred pre-agreement costs and will seek reimbursement for these costs, which are reasonable and allowable in accordance with 2 CFR 200 Subpart E. These include costs for salaries and fringe benefits for program staff based on the individual percentage of time each staff member spent administering CDBG-DR funds, as well as direct operating costs, travel and per diem.

CDBG-DR pre-award costs incurred by the State of Alaska/DCCED and its subrecipients are eligible for reimbursement to the extent they would have been allowable after the award, subject to:

- Inclusion in the CDBG-DR Action Plan or a subsequent amendment;
- Compliance with environmental review requirements under 24 CFR Part 58;
- Compliance with all other applicable statutory and regulatory provisions, including qualification as a CDBG-DR eligible activity; and

- Compliance with all applicable cross-cutting requirements, including but not limited to the environmental requirements, the Davis Bacon Act, Civil Rights Requirements, HUD's Lead Safe Housing Rule, and the URA.

4.8. Program Income

Section II.E. of the Consolidated Notice (Federal Register, Vol. 88, No. 96, Thursday, May 18, 2023) defines program income as gross income generated from the use of CDBG–DR funds, except as provided in III.E.1.b., and received by a state, local government, Indian tribe receiving funds from a grantee, or their subrecipients. Program income includes, but is not limited to, the following:

- Proceeds from the disposition by sale or long-term lease of real property purchased or improved with CDBG-DR funds.
- Proceeds from the disposition of equipment purchased with CDBG-DR funds.
- Gross income from the use or rental of real or personal property acquired by a state, local government, or subrecipient thereof with CDBG-DR funds, less costs incidental to generation of the income.
- Gross income from the use or rental of real property owned by a state, local government, or subrecipient thereof, that was constructed or improved with CDBG-DR funds, less costs incidental to generation of the income.
- Payments of principal and interest on loans made using CDBG-DR funds.
- Proceeds from the sale of loans made with CDBG-DR funds.
- Proceeds from the sale of obligations secured by loans made with CDBG-DR funds.
- Interest earned on program income pending disposition of the income, including interest earned on funds held in a revolving loan account.
- Funds collected through special assessments made against nonresidential properties and properties owned and occupied by non-LMI households, where the special assessments are used to recover all or part of the CDBG-DR portion of a public improvement.
- Gross income paid to a state, local government, or subrecipient thereof, from the ownership interest in a for-profit entity in which the income is in return for the provision of CDBG-DR assistance.

When income is generated by an activity that is only partially funded with CDBG-DR funds, the income shall be prorated to reflect the percentage of CDBG-DR funds used. If CDBG funds are used with CDBG-DR funds on an activity, any income earned on the CDBG portion would not be subject to the waiver and alternative requirement in the Consolidated Notice (Federal Register, Vol. 88, No. 96, Thursday, May 18, 2023).

If the State of Alaska receives and retains program income before or after the closeout of the grant and continues disaster recovery activities, program income will be treated as additional CDBG-DR funds subject to the requirements of the Consolidated Notice (Federal Register, Vol. 88, No. 96, Thursday, May 18, 2023), and will be used in accordance with the disaster recovery action plan (this document).

Grantees must use all program income received during an open CDBG-DR grant prior to drawing remaining CDBG-DR grant funds. As a state grantee, the State of Alaska/DCCED may transfer program

income to its annual CDBG program before closeout of the grant that generated the program income, or to any annual CDBG-funded activities carried out by a local government within the state.

All program income is subject to CDBG-DR regulations. The State of Alaska/DCCED can require that subrecipients return program income to the State or allow subrecipients to use program income for current and future CDBG-eligible activities. Any program income received that is not used to continue the disaster recovery activity will be subject to the state of Alaska's regular CDBG program rules, not the rules of the Consolidated Notice. Any other transfer of program income not specifically addressed in the Consolidated Notice may be carried out if the grantee first seeks and then receives HUD's approval.

Section III.E.1.e. of the Consolidated Notice (Federal Register, Vol. 88, No. 96, Thursday, May 18, 2023) provides a waiver and alternative requirement for Indian tribes that may be used if CDBG-DR funds are subawarded to eligible entities. Program income earned by Indian tribes that receive an allocation from HUD will be governed by the regulations at 24 CFR 1003.503 until grant closeout and not by the waivers and alternative requirements in the Consolidated Notice. Program income earned by Indian tribes that are subrecipients of a state grantee will be subject to the program income requirements for subrecipients of the State of Alaska.

4.9. Resale or Recapture

Resale or recapture requirements vary by program and may not be applicable to all CDBG-DR programs. If applicable, the resale or recapture requirements are described within each of the program sections below. Program guidelines will provide additional details on the terms of resale or recapture and the specific circumstances under which resale or recapture will be used. The State of Alaska will ensure that affordability restrictions are enforceable and imposed by recorded deed restrictions, covenants, property liens, bylaws, or other similar mechanisms.

4.10. Program Details

Western Alaska Housing Recovery Program

Funds allocated for this program will provide for the development of new, affordable multifamily housing units. For the purposes of CDBG-DR funs, multifamily housing is defined as five or more units per structure. The goal of this program is to address the unmet housing needs resulting from and exacerbated by Typhoon Merbok. The program is designed to ensure that the housing needs of very-low, low- and moderate-income households and vulnerable populations, including individuals that were made homeless as a result of the disaster, are addressed to the greatest extent possible.

Program Tieback to Disaster/Unmet Needs

This program is an opportunity to construct new multifamily housing to meet a portion of the pre-disaster unmet need and to give families whose homes were impacted by Typhoon Merbok DR-AK-4672 a place for temporary relocation while impacted homes are assessed for protect-in-place or relocation.

The unmet needs assessment found that the MID areas had an overwhelming pre-disaster unmet housing need that was exacerbated by Typhoon Merbok. Even without housing damage from the

disaster, the Association of Village Council Presidents Regional Housing Authority (AVCP RHA) Strategic Plan and Housing Need Forecast (2025)[11] shows that with existing funding sources (e.g. NAHASDA), the regional Tribally Designated Housing Entity (TDHE) would need over a century to meet existing regional unmet need for housing in the Lower Yukon and Lower Kuskokwim sub regions due to limited population growth, extremely high rates of overcrowding and unmet rehabilitation needs for aging or substandard housing stock (i.e., housing without kitchen and/or plumbing facilities).

Program National Objectives

Projects under this program will meet the national objectives of benefiting low- and moderate-income (LMI) areas or addressing and urgent need (UN). The program may use Urgent Need National Objective to aid the eligible disaster impacted areas with incomes greater than 80% area mean income (AMI). The Urgent Need national objective will only be used when an LMI national objective cannot be achieved through the project, but the project has demonstrable recovery or mitigation benefits within the most impacted and distressed (MID) areas.

Program Method of Distribution

The State of Alaska/DCCED intends to award CDBG-DR funds as reimbursable agreements to subrecipients, who would be responsible for administering the project and maintaining compliance with the terms of the subrecipient agreement. A pre-award risk assessment will be completed for each subrecipient prior to award. Subrecipients are anticipated to include the Alaska Housing Finance Corporation (AHFC), the Bering Strait Regional Housing Authority (RHA) and/or the Association of Village Council Presidents Regional Housing Authority (AVCP RHA), which are the Tribally Designated Housing Entities (TDHEs) that serve communities in the MID areas. These subrecipients are anticipated because of their experience working with HUD grants, their capacity to handle all administrative and programmatic requirements, and their knowledge of planning, construction and operation of housing projects in their respective service areas.

Applicant and Project Eligibility

To be eligible for this program, applicants must meet the following criteria:

- The applicant must be a legally formed entity qualified to do business in the State of Alaska as of the application deadline.
- The applicant must be a non-profit housing developer that qualifies under HCDA Section 105(a)(15) as part of an eligible project under Section 105(a)(15).[12]
- The applicant has provided evidence of ownership or other legal contract providing for its use/development of the project site.
- There is a preference to partner with applicants that have previous experience administering projects of a similar size and scope and/or working with federal or state housing grant funds.

[11] Association of Village Council Presidents Regional Housing Authority (AVCP RHA), 2025. *Strategic Plan and Housing Need Forecast.* Available: https://www.avcphousing.org/wp-content/uploads/AVCP-RHA-Strategic-Plan-v5-April-update.pdf. Accessed August 20, 2025.

[12] Available at: https://www.hudexchange.info/sites/onecpd/assets/File/CDBG-State-National-Objectives-Eligible-Activities-Appendix-A.pdf. Accessed August 22, 2025.

- The new housing project must be located in the Bering Straits REAA, Kashunamiut REAA, Lower Yukon REAA, Lower Kuskokwim REAA, Yupiit REAA, or Pribilof Islands REAA.

Eligible and Ineligible Activities

Eligible activities within this project may include new construction of multifamily housing projects for Low- to Moderate-Income (LMI) households, with access to water and sewer connections to meet HUD standards for decent, safe and sanitary housing. For the purposes of CDBG-DR funds, multifamily housing is defined as five or more units per structure. Eligible projects must meet Affirmatively Furthering Fair Housing (AFFH) requirements.

24 CFR 570.207(3)[13] allows new housing construction as an eligible activity:

(i) under the last resort housing provisions set forth in 24 CFR part 42,[14] which defines rules for property acquisition for HUD and HUD-assisted programs.

(ii) as authorized under § 570.201(m),[15] which allows CDBG funds to be used for the construction of new housing assisted under section 17 of the United States Housing Act of 1937 or (n),[16] which allows CDBG funds to be used to provide direct homeownership assistance to low- or moderate-income households in accordance with section 105(a) of the Act.

(iii) when carried out by an entity pursuant to § 570.204(a)[17] for neighborhood revitalization, community economic development, or energy conservation.

Ineligible activities are defined in 24 CFR 570.207, and include, but are not limited to, buildings or portions thereof used for conduct of government; general government expenses; political activities; purchase of equipment (except as provided for in 24 CFR 570.201(c)); operating and maintenance expenses; and income payments.

Program Maximum Assistance

The estimated total budget for affordable housing development is $25,773,400.

Maximum Project Award: $20,618,720

Program Estimated Begin and End Dates

The program is expected to start in 2026 and continue until all budgeted funds have been expended and all eligible participants have completed project closeout, or six (6) years after execution of the grant agreement with HUD (January 16, 2030).

[13] Available at: https://www.ecfr.gov/current/title-24/subtitle-B/chapter-V/subchapter-C/part-570/subpart-C/section-570.207 Accessed August 22, 2025.

[14] Available at: https://www.ecfr.gov/current/title-24/subtitle-A/part-42 Accessed August 22, 2025.

[15] Available at: https://www.ecfr.gov/current/title-24/subtitle-B/chapter-V/subchapter-C/part-570/subpart-C/section-570.201#p-570.201(m) Accessed August 22, 2025.

[16] Available at: https://www.ecfr.gov/current/title-24/subtitle-B/chapter-V/subchapter-C/part-570/subpart-C/section-570.201#p-570.201(n) Accessed August 22, 2025.

[17] Available at: https://www.ecfr.gov/current/title-24/subtitle-B/chapter-V/subchapter-C/part-570/subpart-C/section-570.204#p-570.204(a). Accessed August 22, 2025.

Western Alaska Flood and Erosion Mitigation Program

The goal of this program is to assist eligible applicants in addressing mitigation related infrastructure needs that will reduce the risk of erosion and flooding, which were the most frequently identified hazards in the Mitigation Needs Assessment. This program will fund yet-to-be-identified mitigation projects that will reduce erosion and flood risk in the MID areas. Activities funded under this program will be used to satisfy the MIT set-aside required under this award. Other local, state or federal resources may be leveraged with this funding.

Program Tieback to Disaster/Unmet Needs

This program is an opportunity to construct infrastructure to mitigate against future storms and/or flood events in the MID areas. Prior to Typhoon Merbok, there was significant unmet mitigation need for flood and erosion control. See Section 2.6 for more on pre-disaster mitigation unmet need. This program is an opportunity to protect critical infrastructure by stabilizing eroded shorelines and reinforcing flood defenses to withstand more frequent and severe natural disasters, preventing repeat loss of homes and essential public infrastructure. Erosion control can protect subsistence areas critical for communities to thrive in rural western Alaska.

This Unmet Needs Assessment identified significant flooding, coastal erosion, and storm surge damage from Typhoon Merbok. These are persistent threats to long-term housing stability, infrastructure functionality, and economic recovery in MID areas. Based on these findings, funding is prioritized to support projects that directly reduce repetitive losses and loss of critical public infrastructure in MID areas, recognizing that without mitigation, communities remain vulnerable to future storm events of similar or greater magnitude. Flood and erosion mitigation reduce the likelihood of economic disruptions, displacement, and emergency evacuations as seen during Typhoon Merbok. These investments will decrease the need for repetitive emergency repairs and future disaster assistance.

Program National Objectives

Projects under this program will meet the national objectives of benefiting low- and moderate-income (LMI) areas or addressing and urgent need (UN). The program may use Urgent Need National Objective to aid the eligible disaster impacted areas where fewer than 51% of the residents are low-to-moderate-income. The Urgent Need national objective will only be used when an LMI national objective cannot be achieved through the project, but the project has demonstrable recovery or mitigation benefits within the most impacted and distressed (MID) areas.

Program Method of Distribution

Funding for the Mitigation Program will be awarded to eligible entities through an application process aimed at identifying eligible mitigation projects with the highest need.

Program Responsible Entity

The State of Alaska/DCCED intends to award CDBG-DR funds as reimbursable agreements to subrecipients. The selected subrecipients would be responsible for administering the project and maintaining compliance with the terms of the subrecipient agreement. A pre-award risk assessment will be completed for each subrecipient prior to award.

Applicant and Project Eligibility

This program is designed to allow for a flexible range of eligible activities to help local entities address the mitigation needs of their disaster-impacted communities.

Mitigation funds can be used to:

- Develop standalone mitigation projects which will be funded solely with CDBG-DR mitigation funds.
- Develop mitigation projects that will use CDBG-DR mitigation funds to meet a local match requirement or in conjunction with other local, state and/or federal funding.

Projects must demonstrate a clear tie-back to Typhoon Merbok-related impacts. 80% of mitigation funding will be allocated to HUD-identified MID communities; 20% will be allocated to State-identified MID communities. Projects must be feasible and cost-effective, ensuring that mitigation address current and future risks, not solely repairing past damage. Projects must comply with HUD requirements. Disaster-related impacts to be addressed may include repeated and severe erosion of housing areas, airstrips, barge landing sites, roadways, other transportation infrastructure, and energy infrastructure; flooding of residential and community-serving structures including sewage and solid waste infrastructure; and threatened cultural and subsistence resources critical to long-term community resilience.

Eligible Applicants

Tribal and local governments; State departments and divisions; regional entities with established authority and internal controls necessary to receive federal funds; regional non-profit corporations; non-profit Native Corporations; and regional housing authorities within the Bering Straits REAA, Kashunamiut REAA, Lower Yukon REAA, Lower Kuskokwim REAA, Yupiit REAA, and Pribilof Islands REAA.

Eligible Projects or Activities

Eligible projects must:

- Meet the HUD definition of Mitigation. Activities that increase resilience to disasters and reduce or eliminate the long-term risk of loss of life, injury, damage to and loss of property, and suffering and hardship, by lessening the impact of future disasters.
- Align with local and/or regional plans. Projects submitted to the State of Alaska for funding should demonstrate a connection to goals and objectives of a local or regional planning documents, if available and relevant to current on-the-ground conditions.
- Mitigate flood and/or erosion risk. This program will prioritize projects that mitigate risk to repeated and severe damage to critical public infrastructure.

Ineligible Activities

Ineligible activities are defined in 24 CFR 570.207, and include, but are not limited to, buildings or portions thereof used for conduct of government; general government expenses; political activities; purchase of equipment (except as provided for in 24 CFR 570.201(c)); operating and maintenance expenses; and income payments.

In addition, activities that do not meet a HUD national objective will not be eligible for funding.

Program Maximum Assistance

This plan allocates the mitigation set-aside of $5,021,000 of CDBG-DR funding to eligible subrecipient(s) for flood and erosion mitigation measures, to be distributed consistent with the requirements outlined in Section 4.6.

Program Estimated Begin and End Dates

The program is expected to start in 2026 and continue until all budgeted funds have been expended and all eligible participants have completed project closeout, or six (6) years after execution of the grant agreement with HUD (January 16, 2030).

Duplication of Benefits

As required by the Stafford Act, the State of Alaska will require subrecipient(s) under this program to verify that there is not a duplication of benefits on each proposed project.

5. Appendix

5.1. Certifications

1. The grantee certifies that it has in effect and is following a residential anti-displacement and relocation assistance plan in connection with any activity assisted with CDBG-DR grant funds that fulfills the requirements of Section 104(d), 24 CFR part 42, and 24 CFR part 570, as amended by waivers and alternative requirements.
2. The grantee certifies its compliance with restrictions on lobbying required by 24 CFR part 87, together with disclosure forms, if required by part 87.
3. The grantee certifies that the action plan for disaster recovery is authorized under state and local law (as applicable) and that the grantee, and any entity or entities designated by the grantee, and any contractor, subrecipient, or designated public agency carrying out an activity with CDBG-DR funds, possess(es) the legal authority to carry out the program for which it is seeking funding, in accordance with applicable HUD regulations as modified by waivers and alternative requirements.
4. The grantee certifies that activities to be undertaken with CDBG-DR funds are consistent with its action plan.
5. The grantee certifies that it will comply with the acquisition and relocation requirements of the URA, as amended, and implementing regulations at 49 CFR part 24, as such requirements may be modified by waivers or alternative requirements.
6. The grantee certifies that it will comply with section 3 of the Housing and Urban Development Act of 1968 (12 U.S.C. 1701u) and implementing regulations at 24 CFR part 75.
7. The grantee certifies that it is following a detailed citizen participation plan that satisfies the requirements of 24 CFR 91.115 or 91.105 (except as provided for in waivers and alternative requirements). Also, each local government receiving assistance from a state grantee must follow a detailed citizen participation plan that satisfies the requirements of 24 CFR 570.486 (except as provided for in waivers and alternative requirements).
8. The state grantee certifies that it has consulted with all disaster-affected local governments (including any CDBG entitlement grantees), tribes, and any local public housing authorities in determining the use of funds, including the MOD, or activities carried out directly by the state.
9. The grantee certifies that it is complying with each of the following criteria:
    a. Funds will be used solely for necessary expenses related to disaster relief, long-term recovery, restoration of infrastructure and housing, economic revitalization, and mitigation in the MID areas for which the president declared a major disaster pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1974 (42 U.S.C. 5121 et seq.).
    b. With respect to activities expected to be assisted with CDBG-DR funds, the action plan has been developed so as to give the maximum feasible priority to activities that will benefit LMI families.
    c. The aggregate use of CDBG-DR funds shall principally benefit LMI families in a manner that ensures that at least 70 percent (or another percentage permitted by HUD in a waiver) of the grant amount is expended for activities that benefit such persons.

   d. The grantee will not attempt to recover any capital costs of public improvements assisted with CDBG-DR grant funds, by assessing any amount against properties owned and occupied by LMI persons, including any fee charged or assessment made as a condition of obtaining access to such public improvements, unless:
      i. Disaster recovery grant funds are used to pay the proportion of such fee or assessment that relates to the capital costs of such public improvements that are financed from revenue sources other than under this title.
      ii. For purposes of assessing any amount against properties owned and occupied by persons of moderate income, the grantee certifies to the secretary that it lacks sufficient CDBG funds (in any form) to comply with the requirements of clause (a).

10. State and local government grantees certify that the grant will be conducted and administered in conformity with title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d), the Fair Housing Act (42 U.S.C. 3601–3619), and implementing regulations, and that it will affirmatively further fair housing. A tribe grantee certifies that the grant will be conducted and administered in conformity with the Indian Civil Rights Act.
11. The grantee certifies that it has adopted and is enforcing the following policies and, in addition, state grantees must certify that they will require local governments that receive their grant funds to certify that they have adopted and are enforcing: 1) a policy prohibiting the use of excessive force by law enforcement agencies within its jurisdiction against any individuals engaged in nonviolent civil rights demonstrations and 2) a policy of enforcing applicable state and local laws against physically barring entrance to or exit from a facility or location that is the subject of such nonviolent civil rights demonstrations within its jurisdiction.
12. The grantee certifies that it (and any subrecipient or administering entity) currently has or will develop and maintain the capacity to carry out disaster recovery activities in a timely manner and that the grantee has reviewed the requirements applicable to the use of grant funds.
13. The grantee certifies to the accuracy of its Financial Management and Grant Compliance Certification Requirements or other recent certification submission, if approved by HUD, and related supporting documentation as provided in Section III.A.1. of the Consolidated Notice and the grantee's implementation plan and related submissions to HUD as provided in section III.A.2. of the Consolidated Notice.
14. The grantee certifies that it will not use CDBG-DR funds for any activity in an area identified as flood-prone for land use or hazard mitigation planning purposes by the state, local, or tribal government or delineated as a Special Flood Hazard Area (or 100-year floodplain) in FEMA's most current flood advisory maps, unless it also ensures that the action is designed or modified to minimize harm to or within the floodplain, in accordance with Executive Order 11988 and 24 CFR part 55. The relevant data source for this provision is the state, local, and tribal government land use regulations and hazard mitigation plans and the latest-issued FEMA data or guidance, which includes advisory data (such as Advisory Base Flood Elevations) or preliminary and final Flood Insurance Rate Maps.
15. The grantee certifies that its activities concerning lead-based paint will comply with the requirements of 24 CFR part 35, subparts A, B, J, K, and R.
16. The grantee certifies that it will comply with environmental requirements at 24 CFR part 58.

17. The grantee certifies that it will comply with the provisions of title I of the Housing and Community Development Act and with other applicable laws.

Warning: Any person who knowingly makes a false claim or statement to HUD may be subject to civil or criminal penalties under 18 U.S.C. 287, 1001, and 31 U.S.C. 3729.

[insert an image of the signature here]

July 24, 2025

5.2. Waivers (if applicable)

To date, the State of Alaska has not requested any additional waivers outside of the general waivers HUD included in Federal Register, Vol. 88, No. 96, Thursday, May 18, 2023 https://www.commerce.alaska.gov/web/Portals/4/pub/CDBG-Merbok/FR-6393-N-01-AAN.pdf, governing the 2022 disaster recovery program funding allocations.

5.3. Summary and Response of Public Comments

The following provides a summary of public comments received for the CDBG-DR Action Recovery Plan in response to FEMA Disaster #4672 2022-Typhoon Merbok during the initial public comment period of August 25, 2025 through September 24, 2025. The State of Alaska received a total of [number] comments during the 30 calendar days.

[To be added: attachment of full public comment with State's responses to each comment; describe how the action plan may have been updated in response to public comments, if/as applicable.]

5.4. Data Sources/Methodologies

Owner-occupied households:

- Minor-Low: Less than $3,000 of FEMA-inspected real property damage
- Minor-High: $3,000 to $7,999 of FEMA-inspected real property damage
- Major-Low: $8,000 to $14,999 of FEMA-inspected real property damage
- Major-High: $15,000 to $28,800 of FEMA-inspected real property damage
- Severe: Greater than $28,800 of FEMA-inspected real property damage

Renter-occupied households:

- Minor-Low: Less than $1,000 of FEMA-inspected personal property damage
- Minor-High: $1,000 to $1,999 of FEMA-inspected personal property damage
- Major-Low: $3,500 to $4,999 of FEMA-inspected personal property damage
- Major-High: $5,000 to $8,999 of FEMA-inspected personal property damage
- Severe: Greater than $9,000 of FEMA-inspected personal property damage

Methodology: 2025 Housing Need Forecast

Estimated Pre-Disaster Unmet Housing Need (2023): New housing units needed due to overcrowding (*$600,000/unit average estimated cost) + units in need of rehabilitation (*$200,000/unit average estimated cost) = estimated cost of total housing need.

- New units due to overcrowding: estimated using American Community Survey (ACS) data from the U.S. Census Bureau for levels of overcrowding and severely overcrowded households in each geography. Estimated new units due to overcrowding represents immediate housing need.
- *New units due to environmental threats: forthcoming. Not represented in the estimates used for this ARP. Estimated need for new housing units due to environmental threats and climate impacts such as coastal erosion and flooding will be provided by the Alaska Native Tribal Health Consortium in summer 2025.*
- Sum of new units needed is multiplied by $600,000/unit, which is an average cost of new construction for these remote Alaska communities (Source: AVCP RHA).
- Number of units in need of rehabilitation or replacement: estimated from ACS data for percent of housing stock built before 1970, percent of occupied units without plumbing and kitchen facilities, and percent of total housing stock that are mobile home units.
- Units in need of rehabilitation or replacement are multiplied by $200,000/unit, which is an average cost of rehabilitation for homes in these remote Alaska communities (Source: AVCP RHA).

FEMA Individual Assistance and Small Business Association Unmet Need for Typhoon Merbok (2022): Unmet housing need was calculated using FEMA Individual Assistance (IA) data, grouped by REAA. The following FEMA data fields were used:

- Total recommended values were derived by summing the *Preliminary Repair for Verified Loss (RP_FVL)* and *Personal Property Verified Loss (PP_FVL)* fields.
- Total paid values were derived by summing the *Repair Award Amount (REPAIR_AWARD_AMT)*, *Replacement Award Amount (REPLACE_AWARD_AMT)*, and *Personal Property Award Amount (PP_AWARD_AMT)* fields.
- Total remaining unmet need was calculated as the difference between the recommended and paid totals. Where this value was negative—i.e., where award amounts exceeded verified losses—it was adjusted to zero. This adjustment avoids misrepresenting a surplus as a form of "negative unmet need."
- Totals were aggregated by REAA to align with HUD- and State-identified MID areas.
- The SBA disbursement amount was then subtracted from the overall remaining unmet need to reflect total known federal assistance for housing recovery.

Definitions for Single-family vs. Multi-family Needs; Owner-occupied vs. Tenant, by REAA: HUD's income limits are not calculated as a simple percentage of local median income. Instead, they are derived from a national formula that incorporates housing cost adjustments, state minimum thresholds, and low-income caps to prevent significant disparities in rental assistance eligibility. As a result, in low-income areas such as the Kusilvak Census Area, HUD's published 80% Area Median Income (AMI) for a 4-

person household in FY 2023 ($75,200) exceeds the locally reported median family income ($42,600). This is a deliberate adjustment intended to preserve housing affordability standards in high-cost or low-income regions.

Additionally, it is important to note that the Kashunamiut REAA and Lower Yukon REAA both fall within the Kusilvak Census Area, and that the Lower Kuskokwim REAA and Yupiit REAA both fall within the Bethel Census Area. Because HUD income limits are published by census area, REAAs within the same census area share the same income limit thresholds for purposes of assessing affordability and program eligibility.

Persons with Disabilities: Data on persons with disabilities were sourced from the U.S. Census Bureau's 2023 ACS 5-Year Estimates, Table S1810. Estimates reflect disability status at the place level (i.e., individual communities) rather than by census area. Data were not available for the community of Nunam Iqua.

Income Demographics: Income data presented in Table 7 were sourced from the 2023 American Community Survey (ACS) 5-Year Estimates, Tables B19013 (Median Household Income) and B19301 (Per Capita Income). Data were compiled for each HUD- and state-identified Most Impacted and Distressed (MID) area. However, no income data were available for the communities of Diomede (Bering Strait REAA), Chevak (Kashunamiut REAA), Nunam Iqua (Lower Yukon REAA), Oscarville and Platinum (Lower Kuskokwim REAA), and Tulusak (Yupiit REAA). These communities were excluded from income calculations for their respective MID areas.

Low- and Moderate-Income (LMI) populations represent a substantial share of the communities affected by the disaster. Based on HUD LMI Summary Data, over 22,500 individuals—more than 70% of the total population in MID areas—qualify as LMI.

Below Poverty Level: Data for this table were compiled from the 2023 ACS 5-Year Estimates, Table S1701, *Poverty Status in the Past 12 Months*, for statewide totals and for HUD- and state-identified Most Impacted and Distressed (MID) areas. No community-level poverty data were available for the community of Nunam Iqua and it is not included in the totals shown.

LMI Analysis Federally Declared Disaster Areas**:** This analysis uses the HUD ACS 5-Year 2016–2020 Low- and Moderate-Income (LMI) Summary Data at the Census block group level to estimate the number of LMI persons residing within the Typhoon Merbok federally declared disaster area. The LMI dataset provides the number and percentage of individuals classified as low- and moderate-income based on HUD's Section 8 income limits and ACS data. These figures are used to inform unmet needs and support the targeting of CDBG-DR resources.

No data are reported for non-MID areas because all communities impacted by the Typhoon Merbok disaster fall within HUD- or State-identified Most Impacted and Distressed (MID) areas.

Geographic boundaries used in this analysis include Census block groups, tracts, and Census Areas, which do not always align cleanly with disaster declarations, municipal boundaries, or educational service areas (REAAs). In rural Alaska, many Census tracts cover large geographic areas and may include multiple communities, portions of multiple REAAs, or both. This results in two key limitations:

- Declared/non-declared overlap: Some Census block groups contain a mix of communities, only some of which were included in the federal disaster declaration for Typhoon Merbok. Because LMI data are available only at the block group level, LMI population estimates may include residents outside the declared area.
- Multi-community composition: Several block groups encompass more than one community or REAA, complicating attribution of LMI status to a single jurisdiction. For example, Kusilvak Census Area, Tract 1, Block 4 includes all of the Kashunamiut REAA and a portion of the Lower Yukon REAA. Similarly, Bethel Census Area, Tract 1, Block 3 contains all of the Yupiit REAA and a portion of the Lower Kuskokwim REAA.

To mitigate these limitations, communities were grouped by shared census geography and LMI population was attributed only once per block group to avoid duplication. Where necessary, assumptions were made to conservatively allocate LMI data within the declared disaster area, prioritizing inclusion of declared communities while acknowledging data constraints inherent to small-area Census geographies in rural Alaska.

Point-in-Time Count – Type of Shelter (January 31, 2023): Information requests were sent to providers of shelter and support services for people experiencing homelessness in the impacted areas. The Bethel Homeless Coalition, Nome Community Center and Bay Haven (in Hooper Bay) have confirmed that *no homeless persons or support facilities were impacted by Typhoon Merbok in their respective areas. The Emmonak Women's Shelter is located along the Yukon River. Although information requests to* providers did not result in reports of direct impact to the building, a substantial increase in erosion of the land adjacent to the building was reported.: Point-in-Time (PIT) Count data is collected annually and reported by Continuums of Care (CoCs) to the U.S. Department of Housing and Urban Development (HUD). The most relevant CoC for the impacted regions is the Alaska Balance of State CoC (AK-500), which covers the majority of rural and remote communities across the state. However, PIT data is generally not disaggregated to the level of individual REAAs or communities, and disaster-specific counts are not available. The table will be updated once local CoC partners provide region-specific data for the 2022 disaster period.

How HUD allocates CDBG-DR funding: FEMA IA Data generally capture homeowners who are uninsured for disaster and renters who are very low-income (or below poverty) and whose units were damaged by the disaster. While landlords may have insurance, HUD assumes that rental units occupied by very low-income tenants and seriously damaged will not be affordable if repaired or replaced, thus creating a need for affordable units. FEMA inspections record the level of damage but not the likely cost to repair to code. SBA Disaster Recovery Home Loan data records how much the damaged homes will require for repair to code and how many households are addressing their need with SBA assistance.

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5.5. Important Definitions and Terms

AMI: Area median income

CBDO: Community-Based Development Organization

CDBG: Community Development Block Grant

CDBG-DR: Community Development Block Grant—Disaster Recovery

CFR: Code of Federal Regulations

CO: Certifying Officer

CP: Participation

DOB: Duplication of Benefits

DRGR: Disaster Recovery and Grant Reporting System

FEMA: Federal Emergency Management Agency

HCD Act: Housing and Community Development Act of 1974, as amended

HMGP: Hazard Mitigation Grant Program

IA: (FEMA) Individual Assistance

LIHTC: Low-Income Housing Tax Credit

LMI: Low- and moderate-income

MID: Most Impacted and Distressed

NFIP: National Flood Insurance Program

MOD: Method of distribution

PA: (FEMA) Public Assistance

RE: Responsible entity

RFP: Request for proposals

SBA: U.S. Small Business Administration

SFHA: Special Flood Hazard Area

UGLG: Unit of general local government

URA: Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended

USACE: U.S. Army Corps of Engineers

5.6. Standard Form 424

The final submission of the CDBG-DR Action Plan to HUD will include a completed and executed Federal Form SF-424 (Application for Federal Assistance).