

Hazard Mitigation Planning Process

Update to the 2016 City of Dillingham Hazard Mitigation Plan

Plans must be updated every five years and approved by DHS&EM and FEMA and then adopted by the City via resolution for the City to be eligible for State of Alaska and FEMA grant funding.

Public Meetings: December 8 and 9, 2021

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Hazard Mitigation Definition

Hazard mitigation, as defined in Title 44 of the Code of Federal Regulations (CFR), Part §201.4, is “any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards.” As such, hazard mitigation is any work done to minimize the impacts of any type of hazard event before it occurs. Planning aims to reduce losses from future disasters.

Hazard Mitigation Planning

Hazard mitigation is a process in which **hazards are identified and profiled, people and facilities at risk are analyzed, and mitigation actions are developed.** Implementation of the mitigation actions, which include long-term strategies such as planning, policy changes, programs, projects, and other activities, is the end result of this process. Hazard mitigation is the only phase of emergency management specifically dedicated to breaking the cycle of damage reconstruction and repeated damage.

Plan Process for Dillingham:

- We started this process in April 2021.
- Hazard Mitigation Plan Workshop occurred on September 1.
- Presentation of Plan Benefits to the Planning Commission occurred on September 8.
- 2021 Draft Plan Update was posted on the City webpage and Facebook page in November for the public comment period.
- Public Hearings for Draft Plan. December 8 Planning Commission meeting and December 9 City Council meetings.
- State/FEMA review and pre-approval of Draft Plan.
- Newsletter announcing Final Plan (the public may still comment).
- City Council adoption and Final FEMA approval letter—anticipated in early 2022.

After the Hazard Mitigation Plan Update is completed, approved, and adopted, the City of Dillingham will be eligible to apply for mitigation project funds from DHS&EM and FEMA for five years until the plan requires another update in 2026.

For hazards, we're interested in information related to:

- Hazard Identification,
- Profiles (characteristics),
- Previous occurrences,
- Locations,
- Extents (breadth, magnitude, and severity),
- Impacts, and
- Recurrence probability statements.

Which hazards are applicable for Dillingham?

- Changes to the Cryosphere **Applicable**
- Earthquakes **Applicable**
- Flood/Erosion **Applicable**
- Ground Failure **Applicable**
- Severe Weather **Applicable**
- Tsunami/Seiche **Not Applicable**
- Volcano **Applicable**
- Wildland/Conflagration Fires **Applicable**



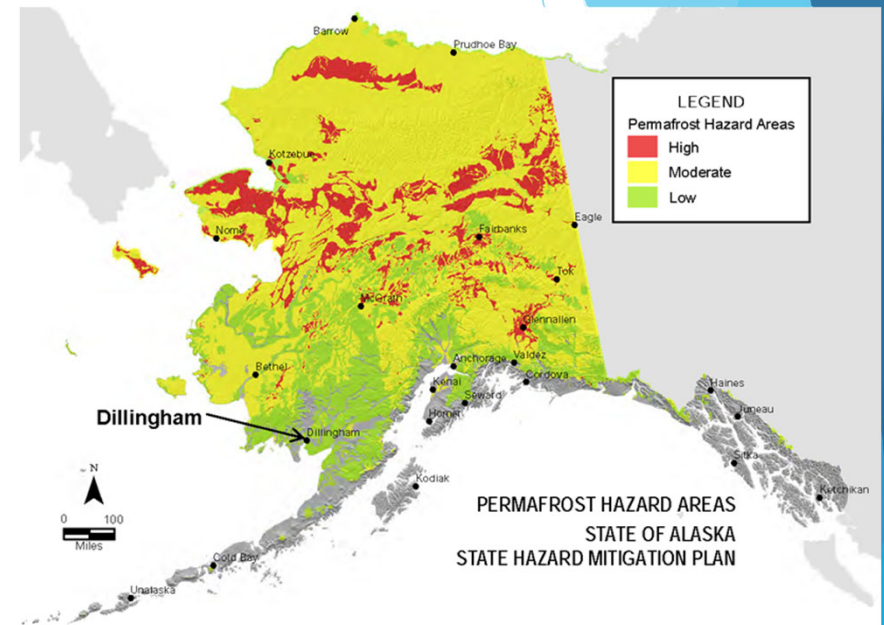
Changes in the Cryosphere

Hazards of the cryosphere can be subdivided into four major groups: glaciers; sea ice; avalanches; and permafrost and periglacial features.

- **Glaciers**
- **Sea Ice**
- **Avalanches**
- **Permafrost**

Of these four major groups, only isolated permafrost applies to the Dillingham area.

Related hazards to the cryosphere also include flood/erosion.

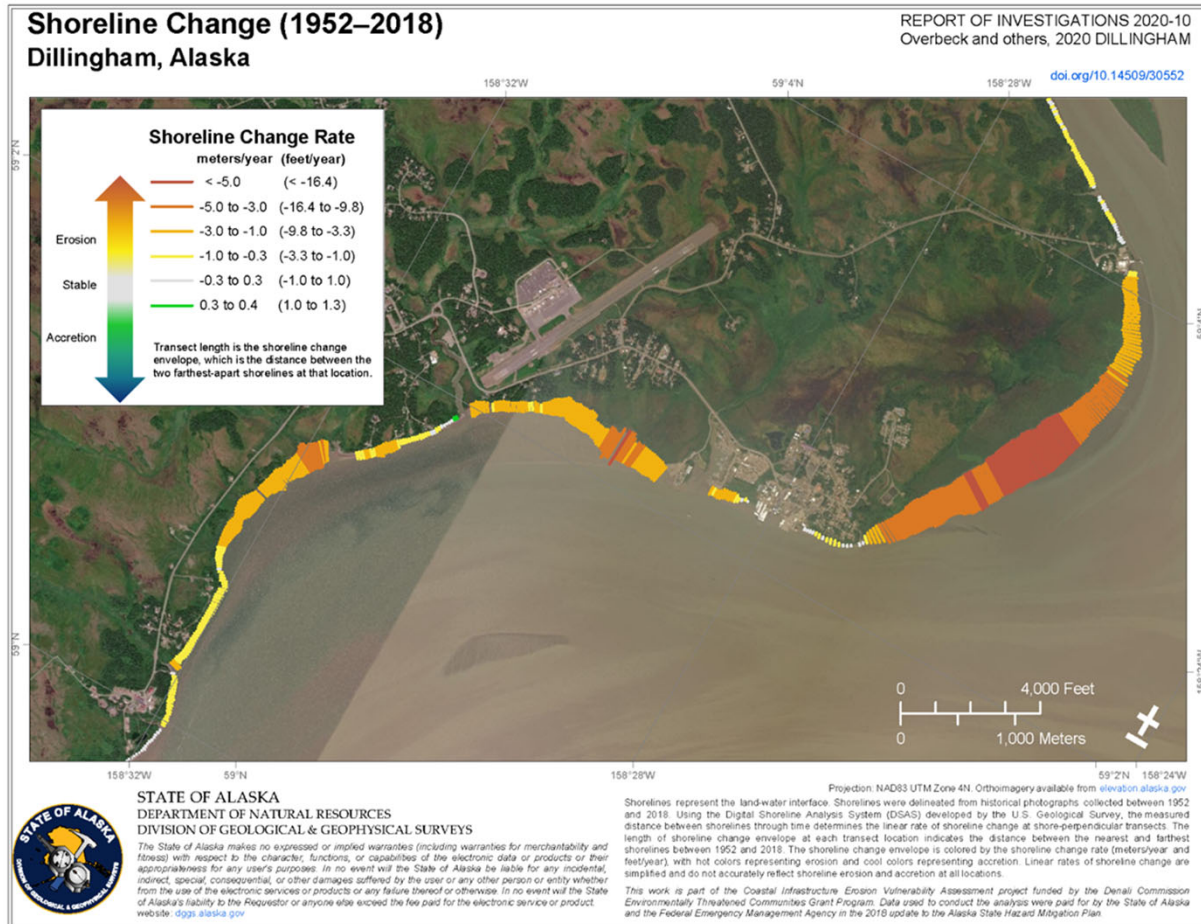


Earthquakes

- The entire geographic area of Alaska is prone to earthquakes.
- The largest earthquake that occurred within 150 miles of Dillingham had a 6.6 magnitude and occurred in 1990.

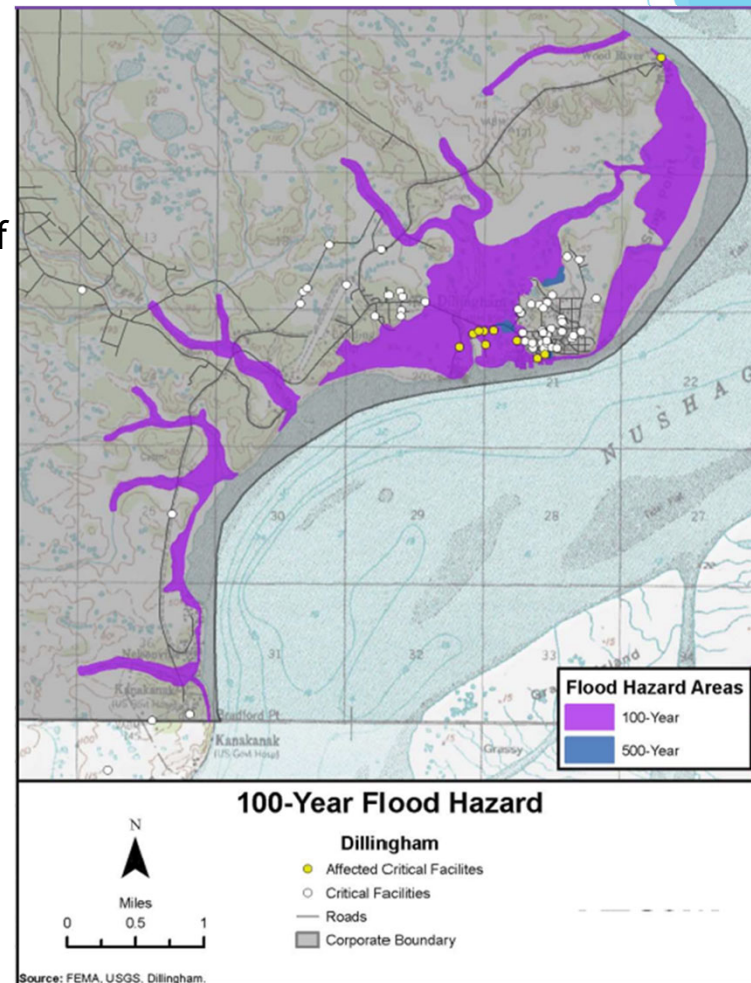


Flood/Erosion



Flood/Erosion, continued.

The FIRMs indicate that an area totaling 2.36 sq. miles within the City of Dillingham is within the 100-year floodplain with an additional 0.012 sq. miles within the 500-year floodplain. Most of the floodplains are located within relatively undeveloped areas.



Ground Failure

There are various ground failure locations throughout Dillingham. Sources include City planning documents, USACE, USGS, as well as other agencies' developed plans and studies. Land subsidence such as melting permafrost and floodwater soil saturation are the most common ground failure impacts (City, 2016).

Severe Weather

Hurricane force winds, rain, snow, and storm surges can be expected to impact the entire Dillingham area. The entire Dillingham area experiences severe storm conditions with moderate snow depths; wind speeds exceeding 90 mph; and extreme low temperatures that reach -60°F.

When the South West wind comes out of Bristol Bay and blows directly up the Nushagak River Bay, it comes straight into the harbor. Strong winds in the past few years have broken some of the City's floats and arms and unearthed power lines that run to the South end of the harbor. As it is now, vessels have to wait out the storm from the time the tide crests the sandbar outside of the harbor until it goes below it again, basically from ½ tide incoming until ½ tide outgoing. Any vessels in the harbor at this time either ride it out or move up into the creek looking for shelter.

Volcanoes and Ashfall



Wildfire and Conflagration Fires

Previous wildland fires have been documented in close proximity to Dillingham's limits. In recent years, favorable winds occurred so that no evacuations were needed.

There have been approximately 84 historical fires started by environmental events and human actions. The most frequent human cause has been children playing with fire, out-of-control trash, debris or brush burning, and camp or cooking fires. Lightning fires from thunderstorms are becoming more frequent fire initiators; however, lightning strikes within City limits are rare, and there is no record of an urban fire being caused by such an event.

Wildfires in Dillingham's urban/wildland interface have involved grass and brush and had very limited damage extent. Most of these have occurred during warm dry spring seasons; between break-up and green-up. Most property loss occurred to outbuildings, vehicles or other non-residential - non-critical facilities, surrounded by dry grass ignited before firefighter arrival.

Mitigation Goals for the City of Dillingham in 2021

Goal ID	Description
MH 1	Provide outreach activities to educate and promote recognizing and mitigating natural hazards that affect Dillingham.
MH 2	Cross-reference mitigation goals and actions with other City planning mechanisms and projects.
MH 3	Develop construction activities that reduce the possibility of losses from natural hazards that have the potential to affect Dillingham.
FL/ER 4	Reduce flood and erosion damage and loss possibility.
F 5	Reduce structural vulnerability to urban conflagration fire damage.

Mitigation Actions for Dillingham in 2016 with 2021 Updates

Action ID	Description	Priority	Responsible Party
MH 1.1	Identify and pursue funding opportunities to implement mitigation actions. 2021 Update: This action has been implemented.	High	City Planner
MH 1.2	Public education regarding City participation in NFIP about the use and availability of flood insurance. 2021 Update: This action has been implemented.	High	City Planner
MH 1.3	Educate residents about safe well, and sewer, and septic installations through the Land Use Permit process. 2021 Update: This action has been implemented. Education will continue through the permit process.	Medium	City Planner

Action ID	Description	Priority	Responsible Party
MH 1.4	Public Education “info-mercials” on local radio. 2021 Update: This action will be modified to Facebook. Facebook is a more efficient way to educate the population, and information can be shared on a more regular basis.	Medium	City Planner
MH 1.5	Provide two annual weather safety talks. 2021 Update: This action will be modified to occur via Facebook or as agenda items at City Council Meetings.	Medium	City Planner
MH 1.6	Promote FireWise building design, siting, and materials use for construction. 2021 Update: This action will be modified to occur via Facebook.	Medium	Fire Chief

Action ID	Description	Priority	Responsible Party
MH 2.1	Support updates to the FEMA Flood Insurance Rate Maps. 2021 Update: The City has contacted FEMA to inquire about updating the FIRMs.	High	City Planner
MH 2.2	Update and enforce floodplain management ordinances. 2021 Update: DMC 15.04, Floodplain Regulations were updated in September through Ordinance 2021-07, to be in compliance with FEMA's model language and to retain eligibility for the NFIP program. Enforcement is ongoing.	High	City Planner
MH 2.3	Conduct community alert tests for NOAA warning tones. 2021 Update: Tests occur at these locations: Lake Road Fire Hall, Landfill, Police Department, Airport, and Hospital. The only location not currently functioning because of no power is the Wood River Tower. Some work needs to be done to make the alerts more audible.	High	Fire Chief

Action ID	Description	Priority	Responsible Party
MH 2.4	Complete MOU with KDLG regarding communication in the event of an emergency. 2021 Update: Need status update.	High	Department of Public Safety Chief
MH 2.5	Design an evacuation plan for the core town site.	Completed!	
MH 3.1	Develop new water source in Neqleq Subdivision. 2021 Update: The City acquired land, put in a road, and drilled a well in the area. This well did not supply enough water. Finding the right area that will supply the needed water remains a mitigation item.	High	City Public Works Director
MH 3.2	Tie new water source in Neqleq Subdivision to the rest of the City's water system. 2021 Update: There is concern that tapping into any water source in the Neqleq area may contaminate the City's water system with P-FAS contaminated water from the use of firefighting foam from the airport.	This mitigation action will be deleted in the 2026 MJHMP Update.	

Action ID	Description	Priority	Responsible Party
MH 3.3	Purchase and install underground water supply tanks in specified locations. 2021 Update: See F 5.3 and F 5.4.	This mitigation action will be deleted in the 2026 MJHMP Update.	
FL/ER 4.1	Construct breakwater and revetment on the west side of the Dillingham harbor. Construct West side revetment and breakwater, proposed by USACE. 2021 Update: Federal funding has been limited. A revetment on the West side of the harbor, especially the entrance portion would combat the ongoing erosion caused by Southeast winds. Bristol Bay Native Corporation owns the adjacent property to the harbor's West side and needs to be involved in preserving both properties.	High	Port Director

Action ID	Description	Priority	Responsible Party
FL/ER 4.2	Extend the seawall in front of the harbor east toward the Peter Pan dock. Construct East side (“City dock” side) revetment armoring the outside of the harbor & providing beach access, proposed by USACE. 2021 Update: Federal funding has been limited. At the current time, there is no major erosion on the east side of the harbor between it and Peter Pan Seafood’s. At some point, the existing seawall will likely need to be expanded. Completing this action would allow the City to utilize the strip of land between what is now the beach and existing harbor lease lots.	Low	Port Director
FL/ER 4.3	Dredge small boat harbor to its full boundary. 2021 Update: The USACE dredges every three years.	Medium	Port Director
FL/ER 4.4	Request that USACE go back to on-land dredge spoils disposal versus pumping the sediment back into the bay. 2021 Update: The USACE dredges every three years.	Medium	Port Director

Action ID	Description	Priority	Responsible Party
FL/ER 4.5	Stabilize the eroding bank in the vicinity of the recreation area.	This project was completed and will be deleted in the 2026 Update.	
FL/ER 4.6	Map and evaluate the location and degree of erosion issues along the Dillingham waterfront.	This project was completed by DGGS and will be deleted in the 2026 Update.	
FL/ER 4.7	Develop and implement practical erosion mitigation plans. 2021 Update: This mitigation action has been developed. Implementation is occurring.	High	City Planner
FL/ER 4.8	Construct the extension of the North Shore Bulkhead (add onto the North Bulkhead to encompass the East and South sides of the harbor and add a bulkhead on the West side). 2021 Update: Adding sheet pile to match the North bulkhead could make back the land lost to erosion over the years, especially on the East side where it would be possible to regain 75-80 feet of property. This project would also make the South end more usable as well as it could add 30 feet to an area that is always tight in the summer when boats are being launched.	High	City Manager

Action ID	Description	Priority	Responsible Party
FL/ER 4.9	<p>Replace riprap removed by storms at the north end of the Snag Point sheet-pile bulkhead. 2021 Update: The City has put into the budget money every year for riprap until this year. The City has several tons of rock at a storage area above the road to the bulkhead that has accumulated over the past three years without being set into place on the face of the bulkhead.</p>	High	Port Director
F 5.1	<p>Improve water lines to South side of the harbor. 2021 Update: Funding is still needed. When the waterline was first installed to the South end of the harbor, it was done by the Public Works crew and using material (pipe) that was on hand. This pipe was undersized for any future expansion. For instance, any lease lots that may pop up, such as the NAPA store. Now that the City has a shovel ready project in the form of the Harbor float system, it is grossly undersized, especially for fire suppression. Also, there is need for a second restroom facility at the South end of the harbor; this would not only take water but a waste water line returning to the Main at the North end of the harbor.</p>	High	Port Director

Action ID	Description	Priority	Responsible Party
F 5.2	Identify possible locations of underground water tanks and property ownership. 2021 Update: Suitable locations need to be identified.	Medium	City Public Works Director
F 5.3	Purchase and install underground water supply tanks in specified locations. 2021 Update: Need status update.	Medium	Fire Chief
F 5.4	Obtain MOA or agreements with property owners to install underground water tanks. 2021 Update: Need status update.	Medium	Fire Chief