Earthquake

Evaluation Factors	Definition	Impact Rating	Justification
Past Impact/GIS Analysis - MMI	Quantitative analysis of communities based on National Seismic Hazard Model (2023) Modified Mercalli Intensity (MMI) based on a 2% probability of exceedance in 50 years.	No Impact (0)	MMI less than III
		Low Impact (1)	MMI between IV and V
		Medium Impact (2)	MMI between VI and VII
		High Impact (3)	MMI greater than VIII
Critical Infrastructure and Community Services	Critical infrastructure included facilities in the community that, if damaged or disrupted, would affect the community's viability if not replaced quickly. Critical infrastructure include clinics, water supply, roads and airports, water/wastewater systems, water storage, schools, and the Post Office. Impacts to communities serving as a regional hub have cascading impacts to other communities in the region.	No Impact (0)	No
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	Yes
Emergency Services and Human Health and Safety	Human health and safety focused on a community's ability to seek emergency services due to a threat. For example, if a road that connects a community to emergency services would be threatened, or if airport facilities would be jeopardized, the community impact was rated high. Damage to critical infrastructure affects human health and safety only when the damage directly impacts the delivery of health services. For example, damage to a clinic would impact health and safety only if the damage is severe enough to impede health services. As such, the impacts to infrastructure may affect the rating of both critical infrastructure and human health and safety.	No Impact (0)	N/A
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	N/A
Subsistence and Shoreline Use	Subsistence and shoreline use examined whether the community's ability to gather natural resources would be threatened. For example, if a community lost the ability to launch boats or if the only land available for processing catch was compromised, the community impact was rated high.	No Impact (0)	N/A
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	N/A

Evaluation Factors	Definition	Impact Rating	Justification
Land Use / Geographic Location - Analysis of proximity to Faults	Quantitative analysis of communities based on the USGS National Faults and Folds Database (2020).	No Impact (0)	Located greater than 100 miles from the Latest Quaternary Fault (<15,000 years) and Historic Fault (<150 years).
		Low Impact (1)	Located greater than 50 miles to 100 miles from the Latest Quaternary Fault (<15,000 years) and Historic Fault (<150 years).
		Medium Impact (2)	Located greater than 30 miles to 50 miles from the Latest Quaternary Fault (<15,000 years) and Historic Fault (<150 years).
		High Impact (3)	Located within 30 miles from the Latest Quaternary Fault (<15,000 years) and Historic Fault (<150 years).
Housing Distribution	Housing distribution evaluated the manner by which a community's housing layout could exacerbate damages from a threat. The impact to a spread-out community with a small percentage of housing at risk was rated lower, whereas the impact to a community with a condensed utility corridor at risk was rated higher.	No Impact (0)	N/A
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	N/A
Environmental Threat	Environmental threat addressed the potential or capacity for the hazard to degrade the air or water quality, and/or increase human exposure to hazardous substances or waste. If a community was considered to be in danger of losing a primary source of water due to contamination, damages to water or wastewater facilities, or damages to fuel tanks which could cause environmental impacts both to the community and the region received high score.	No Impact (0)	N/A
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	N/A
Cultural Importance	Cultural importance measured threat-related impacts to historically and culturally significant sites such as	No Impact (0)	N/A
		Low Impact (1)	N/A

Evaluation Factors	Definition	Impact Rating	Justification
	cemeteries and artifacts. A situation where documented cultural and historic resources are likely to be damaged or lost due to threat received a higher impact rating.	Medium Impact (2)	N/A
		High Impact (3)	N/A
Commercial Infrastructure and Economic Impacts	Commercial infrastructure involved measuring the impact of a threat on commercial services in the community such as stores, fuel supply, barge landings, and other cash-generating businesses. If a community was in danger of losing its only store, or if the store might close for an extended period of time, that area received a higher impact rating.	No Impact (0)	N/A
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	N/A
Changing Conditions / Trends	Changing conditions addresses conditions either worsening or improving impacts to the community during the threat, and new or emerging threats experienced by a community.	N/A	N/A
		N/A	N/A
		N/A	N/A
		N/A	N/A

Erosion

Evaluation Factors	Definition	Impact Rating	Justification
Past Impact/GIS Analysis - Erosion Exposure Risk	Previous reports of erosion impacts or current GIS data available notes whether community is considered at risk from erosion.	No Impact (0)	Community is located outside erosion risk areas and has not previously been impacted by erosion.
		Low Impact (1)	Community is located within erosion risk but no past impact events have been identified; or insufficient data and reports exist to evaluate community erosion risk
		Medium Impact (2)	Community is located within erosion risk zone; or one or more erosion impact events has impacted community in last 50 years
		High Impact (3)	Community is located within erosion risk zone and one or more erosion impact events has impacted community in past 20 years
Critical Infrastructure and Community Services	Critical infrastructure included facilities in the community that, if destroyed, would affect the community's viability if not replaced quickly. Critical infrastructure include clinics, water supply, roads and airports, water/wastewater systems, water storage, schools, and the Post Office.	No Impact (0)	No evidence of likelihood of impact to critical infrastructure due to threat
		Low Impact (1)	One item of critical infrastructure at risk from threat. Loss of Infrastructure would not result in loss of community sustainability. Damage could be repaired, or alternative service restored in less than 1 month.
		Medium Impact (2)	More than one item of a critical infrastructure at risk from threat. Loss of infrastructure would not result in loss of community sustainability. Damage could be repaired, or alternative service restored between 1 and 6 months.
		High Impact (3)	More than one item of a critical infrastructure at risk from threat. Loss would impact community sustainability. Repairs or establishing alternative service would take more than 6 months.
Emergency Services and Human Health and Safety	Human health and safety focused on a community's ability to seek emergency services due to a threat. For example, if a road that connects a community to emergency services would be threatened, or if airport facilities would be jeopardized, the community impact was rated high.	No Impact (0)	No evidence or low likelihood of life safety concerns due to threat.
		Low Impact (1)	Threat unlikely to cause life safety concerns or negatively affect ability to provide emergency services. Community has ability to mitigate or avoid life safety concerns.
		Medium Impact (2)	Only rare threat events would cause life safety concerns or negatively affect ability to provide emergency services. Quick and easy access to emergency services is available.

Evaluation Factors	Definition	Impact Rating	Justification
	Damage to critical infrastructure affects human health and safety only when the damage directly impacts the delivery of health services. For example, damage to a clinic would impact health and safety only if the damage is severe enough to impede health services. As such, the impacts to infrastructure may affect the rating of both critical infrastructure and human health and safety.	High Impact (3)	Threat is likely to result in life safety or affect ability to provide emergency services. Portions or all of the population cut off from emergency services.
Subsistence and Shoreline Use	Subsistence and shoreline use examined whether the community's ability to gather natural resources would be threatened. For example, if a community lost the ability to launch boats or if the only land available for processing catch was compromised, the community impact was rated high.	No Impact (0)	No evidence or low likelihood of threat affecting subsistence and shoreline use.
		Low Impact (1)	Minor and temporary interruptions of subsistence activities or access to shoreline that are a nuisance but are restored or mitigated in the same year. Damage due to threat could be repaired locally (i.e., repairing boat launch access each spring).
		Medium Impact (2)	Frequent loss or disruption of subsistence activities or access to shoreline. Critical habitat and/or use areas mild to moderately threatened; traditional practices inconvenienced but not disrupted.
		High Impact (3)	Interruptions of subsistence activities or access to shoreline severe enough to cause impact on continual basis. Critical habitat and/or use areas severely threatened; traditional practices limited to focus on survival.
Land Use / Geographic Location Proximity to Historically Active Volcanos of Alaska	Land use/geographic location focused on whether a community has room to retreat from a threat, whether the land is highly susceptible to that threat, and the community's relative impact on surrounding communities. For example, a community situated on a spit of land affected by a threat with no area to retreat was rated high. If the	No Impact (0)	Land is readily available in threat-free zones for new development or relocations. Community is located outside of known threat zones.
		Low Impact (1)	Land is available in threat-free zones for new development or relocations Land use controls in place and/or safe area between existing development and threat zone. Soils and hydrology/hydraulic conditions not conducive to threat. Aggregate resources available locally if mitigation measures needed (for instance, revetment).

Evaluation Factors	Definition	Impact Rating	Justification
	community was situated on a bluff with adequate safe ground, the impact was rated low. An impacted community serving as a hub, providing goods and services to other communities, received a higher impact rating. Regional communities such as Galena, Nome, Bethel, Kotzebue or Barrow are transportation hubs, and health centers. As a consequence, loss of services in these communities directly impact surrounding communities.	Medium Impact (2)	Open lands in threat-free zones are limited and future development will likely be in threat zone or significantly alter community footprint. Existing development close to threat zone with some local resources available to assist with mitigation. Soils and hydrology/hydraulic condition conducive to threat
		High Impact (3)	Open lands are only available in threat zones. Significant damage from threat. Poor soils conducive to erosion and permafrost degradation.
Housing Distribution	Housing distribution evaluated the manner by which a community's housing layout could exacerbate damages from a threat. The impact to a spread-out community with a small percentage of housing at risk was rated lower, whereas the impact to a community with a condensed utility corridor at risk was rated higher.	No Impact (0)	Housing distribution does not exacerbate threat.
		Low Impact (1)	Only a few structures and limited associated infrastructure at risk (one-time loss). Utilities not impacted
		Medium Impact (2)	Structures in clusters and associated infrastructure at risk with some expected future recurrence of damages. Some impacts to utilities.
		High Impact (3)	Structures in clusters and associated infrastructure at risk with frequent expected future recurrence of damages. Major impacts to utilities.
Environmental Threat	Environmental threat addressed the potential or capacity for erosion, flooding, or thawing permafrost to degrade the water quality, and/or increase human exposure to waste. If a community was considered to be in danger of losing a fuel tank or landfill, or of having a wastewater lagoon breached, the threat received a high impact rating.	No Impact (0)	Threat does not result in damages to drinking water supply, bulk fuel storage, waste water system, and/or solid waste disposal.
		Low Impact (1)	Minor damages that can be addressed locally through normal operating procedures.
		Medium Impact (2)	Moderate damages that will require limited intervention by an external agency for a limited period.
		High Impact (3)	Significant damage that will require extensive intervention by one or more external agencies for an extended period Damage or loss will impact a percentage of the population's ability to maintain residence. Threat will cause damage that may impact other communities or region, either directly (i.e., upstream contamination) or indirectly (i.e., displaced community members)

Evaluation Factors	Definition	Impact Rating	Justification
Cultural Importance	Cultural importance measured threat-related impacts to historically and culturally significant sites such as cemeteries and artifacts. A situation where documented cultural and historic resources are likely to be damaged or lost due to threat received a higher impact rating.	No Impact (0)	No significant cultural/traditional activities and/or sites impacted by threat.
		Low Impact (1)	Minor or temporary disruption to cultural/traditional activities with no lingering negative impacts. Documented cultural and historic resources may have little to no damage due to threat.
		Medium Impact (2)	Resources required for community to continue with cultural/traditional activities and use of traditional sites. Documented cultural and historic resources may be damaged or lost due to threat. Damages caused by threat exposes previous unknown cultural and historic sites that may be subject to future damages.
		High Impact (3)	Traditional practices abandoned to focus solely on life-safety and survival . Documented cultural and historic resources have been damaged or lost due to threat Damages caused by threat exposes previous unknown significant cultural and historic sites that are under immediate threat.
Commercial Infrastructure and Economic Impacts	Commercial infrastructure involved measuring the impact of a threat on commercial services in the community such as stores, fuel supply, barge landings, and other cash-generating businesses. If a community was in danger of losing its only store, or if the store might close for an extended period of time, that area received a higher impact rating.	No Impact (0)	Threat does not affect commercial infrastructure. Community is not a hub.
		Low Impact (1)	Temporary impact to operability of commercial infrastructure.
		Medium Impact (2)	Threat has moderate impact on commercial infrastructure associated with overall community cash flow. Impact on commercial infrastructure operability may require external assistance. Loss of commercial infrastructure operability can be temporarily replaced.
		High Impact (3)	Threat has severe effect on commercial infrastructure associated with overall community cash flow Commercial infrastructure operability is lost, cannot be replaced, and is no longer viable. Community is hub of good/services supporting other communities in region.
Changing Conditions / Trends	Changing conditions addresses conditions either worsening or	No Impact (0)	Changing conditions since 2017 improves or has no impact on threat that the community is experiencing.

Evaluation Factors	Definition	Impact Rating	Justification
	improving impacts to the community during the threat, and new or emerging threats experienced by a community.	Low Impact (1)	Changing conditions since 2017 have worsened impacts from the threat and/or changing conditions are projected to worsen impacts by mid-century. New threats have emerged and/or are projected to emerge by mid- or late-century but impacts from new or worsening threats would not result in loss of community sustainability. Additional funding or resources not expected to be required in order to manage new or worsening threat.
		Medium Impact (2)	Changing conditions have worsened impacts from the threat since 2017 and/or changing conditions are projected to worsen impacts by mid-century. Changing conditions have identified new threat and/or are projected to identify a new threat by mid-century. New or worsening impacts require additional resources (funding) to manage.
		High Impact (3)	Changing conditions have worsened impacts from the threat since 2017 and/or changing conditions are projected to worsen impacts by mid-century. New and/or worsening impacts are considered catastrophic and would significantly reduce community sustainability. Full or partial relocations have already been considered and/or will need to be considered based on changing conditions.

Flood

Evaluation Factors	Definition	Impact Rating	Justification
Past Impact/GIS Analysis - Flood Exposure Risk	Previous reports of flooding impacts or current GIS data available notes whether community is considered at risk from potential flood events.	No Impact (0)	Community is located outside defined flood zones and has not previously been impacted by flooding.
		Low Impact (1)	Community is located within 500-yr FEMA flood zone; or insufficient data and reports exist to evaluate community flood risk
		Medium Impact (2)	Community is located within FEMA SFHA (100-year) or flood zone based on flood stage; or one or more flood events has impacted community in last 50 years
		High Impact (3)	Community is located within FEMA SFHA (100-year) or flood zone based on flood stage; one or more flood events has impacted community in past 20 years
Critical Infrastructure and Community Services	Critical infrastructure included facilities in the community that, if destroyed, would affect the community's viability if not replaced quickly. Critical infrastructure include clinics, water supply, roads and airports, water/wastewater systems, water storage, schools, and the Post Office.	No Impact (0)	Flooding not expected to impact critical infrastructure in the community and no services loss is anticipated
		Low Impact (1)	Flooding impacts to critical infrastructure is likely limited and may result in only short-term service loss
		Medium Impact (2)	Flooding has or is likely to impact numerous critical infrastructure locations and result in long-term service loss
		High Impact (3)	Flooding has or is likely to impact numerous critical infrastructure locations that are regionally significant and result in long-term service loss
Emergency Services and Human Health and Safety	Human health and safety focused on a community's ability to seek emergency services due to a threat. For example, if a road that connects a community to emergency services would be threatened, or if airport facilities would be jeopardized, the community impact was rated high. Damage to critical infrastructure affects human health and safety only when the damage directly impacts the delivery of health services. For example, damage to a clinic would impact health and safety only if the	No Impact (0)	Flood events not expected to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		Low Impact (1)	Flood events unlikely disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		Medium Impact (2)	Flood events likely to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		High Impact (3)	Flood events are likely to compromise regionally important evacuation routes, medical facilities, medical transport, or emergency response services. This greatly

Evaluation Factors	Definition	Impact Rating	Justification
	damage is severe enough to impede health services. As such, the impacts to infrastructure may affect the rating of both critical infrastructure and human health and safety.		increases risks to life and safety with cascading impacts to other communities in the region.
Subsistence and Shoreline Use	Subsistence and shoreline use examined whether the community's ability to gather natural resources would be threatened. For example, if a community lost the ability to launch boats or if the only land available for processing catch was compromised, the community impact was rated high.	No Impact (0)	Flooding events are not anticipated to change the community's subsistence or shoreline uses.
		Low Impact (1)	Flooding events are likely to force short-term adaptation measures to maintain existing community subsistence and shoreline uses.
		Medium Impact (2)	Significant or repeated floods are likely to cause significant impacts to or loss of community subsistence and shoreline uses, including shifts in food and resource availability.
		High Impact (3)	Current flood events are already causing impacts significant impacts to or loss of community subsistence and shoreline uses, including shifts in food and resource availability.
Land Use / Geographic Location	Land use/geographic location focused on whether a community has room to retreat from a threat, whether the land is highly susceptible to that threat, and the community's relative impact on surrounding communities. For example, a community situated on a spit of land affected by a threat with no area to retreat was rated high. If the community was situated on a bluff with adequate safe ground, the impact was rated low. An impacted community serving as a hub, providing goods and services to other communities, received a higher impact rating. Regional communities such as Galena, Nome, Bethel, Kotzebue or Barrow are transportation hubs, and health centers.	No Impact (0)	Current community development and future planned development areas are outside existing and potential future risk areas.
		Low Impact (1)	Current community development is outside risk areas, but future planned development could encroach on existing or potential future risk areas.
		Medium Impact (2)	Current community development is within risk area, but areas for future development and strategic retreat have been identified outside of existing and potential future risk areas.
		High Impact (3)	Current community development is within risk areas and no areas for future development and strategic retreat have been identified outside of existing or potential future risk areas

Evaluation Factors	Definition	Impact Rating	Justification
	As a consequence, loss of services in these communities directly impact surrounding communities.		
Housing Distribution	Housing distribution evaluated the manner by which a community's housing layout could exacerbate damages from a threat. The impact to a spread-out community with a small percentage of housing at risk was rated lower, whereas the impact to a community with a condensed utility corridor at risk was rated higher.	No Impact (0)	Flood events are not anticipated to impact the community's housing stock, displacing no residents; alternative housing not needed.
		Low Impact (1)	Flood events are likely to impact some of the community housing stock; displacing some residents; alternative housing may be found within the community.
		Medium Impact (2)	Flood events are likely to impact the majority of housing stock in the community, displacing significant numbers of residents; some adjacent communities may be able to provide alternative housing
		High Impact (3)	Flood events have or are likely to impact the majority of housing stock in the community, displacing significant numbers of residents with no adjacent communities available to provide alternative housing
Environmental Threat	Environmental threat addressed the potential or capacity for erosion, flooding, or thawing permafrost to degrade the water quality, and/or increase human exposure to waste. If a community was considered to be in danger of losing a fuel tank or landfill, or of having a wastewater lagoon breached, the threat received a high impact rating.	No Impact (0)	Flood events are unlikely to cause environmental impacts in the community.
		Low Impact (1)	Flood events may cause localized, site-specific environmental impacts
		Medium Impact (2)	Flood events have already or are likely to cause significant environmental impacts to the community.
		High Impact (3)	Flood events have already or are likely to cause significant environmental impacts both to the community and region.
Cultural Importance	Cultural importance measured threat-related impacts to historically and culturally significant sites such as cemeteries and artifacts. A situation where documented cultural and historic resources are likely to be damaged or	No Impact (0)	Flood events are unlikely to cause impacts to community cultural locations.
		Low Impact (1)	Flood events may cause localized, site-specific cultural impacts
		Medium Impact (2)	Flood events have already or are likely to cause significant impacts to community important cultural locations.

Evaluation Factors	Definition	Impact Rating	Justification
	lost due to threat received a higher impact rating.	High Impact (3)	Flood events have already or are likely to cause significant impacts to community and regionally important cultural locations.
Commercial Infrastructure and Economic Impacts	Commercial infrastructure involved measuring the impact of a threat on commercial services in the community such as stores, fuel supply, barge landings, and other cash-generating businesses. If a community was in danger of losing its only store, or if the store might close for an extended period of time, that area received a higher impact rating.	No Impact (0)	Flood events are unlikely to cause impacts to community business or result in meaningful economic impacts
		Low Impact (1)	Flood events may cause localize, site-specific economic impacts to businesses
		Medium Impact (2)	Flood events have already or are likely to cause significant impacts to important community commercial businesses causing significant community economic impacts
		High Impact (3)	Flood events have already or are likely to cause significant impacts to community and regionally important commercial businesses causing widespread economic impacts
Changing Conditions / Trends	Changing conditions addresses conditions either worsening or improving impacts to the community during the threat, and new or emerging threats experienced by a community.	No Impact (0)	Changing conditions since 2017 improves or has no impact on threat that the community is experiencing.
		Low Impact (1)	Changing conditions since 2017 have worsened impacts from the threat and/or changing conditions are projected to worsen impacts by mid-century. New threats have emerged and/or are projected to emerge by mid- or late-century but impacts from new or worsening threats would not result in loss of community sustainability. Additional funding or resources not expected to be required in order to manage new or worsening threat.
		Medium Impact (2)	Changing conditions have worsened impacts from the threat since 2017 and/or changing conditions are projected to worsen impacts by mid-century. Changing conditions have identified new threat and/or are projected to identify a new threat by mid-century. New or worsening impacts require additional resources (funding) to manage.
		High Impact (3)	Changing conditions have worsened impacts from the threat since 2017 and/or changing conditions are projected to worsen impacts by mid-century. New and/or worsening impacts are considered catastrophic and

Evaluation Factors	Definition	Impact Rating	Justification
			would significantly reduce community sustainability. Full or partial relocations have already been considered and/or will need to be considered based on changing conditions.

Landslide

Evaluation Factors	Definition	Impact Rating	Justification
Past Impact/GIS Analysis - Landslide Inventory	Previous reports of landslides from inventory notes whether community is considered at risk from potential landslide events.	No Impact (0)	No history within 20 miles of community
		Low Impact (1)	N/A
		Medium Impact (2)	Between 1 and 10 landslides within 20 miles of community
		High Impact (3)	Greater than 10 landslides within 20 miles of community
Critical Infrastructure and Community Services	Critical infrastructure included facilities in the community that, if destroyed, would affect the community's viability if not replaced quickly. Critical infrastructure include clinics, water supply, roads and airports, water/wastewater systems, water storage, schools, and the Post Office.	No Impact (0)	Landslides not expected to impact critical infrastructure in the community and no service loss anticipated.
		Low Impact (1)	Landslide impacts to critical infrastructure is likely limited and may result in only short-term service loss.
		Medium Impact (2)	Landslide are likely to impact numerous critical infrastructure locations and result in long-term service loss.
		High Impact (3)	Landslides are likely to impact numerous critical infrastructure locations that are regionally significant and result in long-term service loss.
Emergency Services and Human Health and Safety	Human health and safety focused on a community's ability to seek emergency services due to a threat. For example, if a road that connects a community to emergency services would be threatened, or if airport facilities would be jeopardized, the community impact was rated high. Damage to critical infrastructure affects human health and safety only when the damage directly impacts the delivery of health services. For example, damage to a clinic would impact health and safety only if the damage is severe enough to impede health services. As such, the impacts to infrastructure may affect the rating of both critical infrastructure and human health and safety.	No Impact (0)	Landslides not expected to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		Low Impact (1)	Landslides unlikely to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		Medium Impact (2)	Landslides likely to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		High Impact (3)	Landslides are likely to disrupt regionally important evacuation routes, medical facilities, medical transport, or emergency response services. This greatly increases risks to life and safety with cascading impacts to other communities in the region.

Evaluation Factors	Definition	Impact Rating	Justification
Subsistence and Shoreline Use	Subsistence and shoreline use examined whether the community's ability to gather natural resources would be threatened. For example, if a community lost the ability to launch boats or if the only land available for processing catch was compromised, the community impact was rated high.	No Impact (0)	Landslides are not anticipated to change the community's subsistence or shoreline uses.
		Low Impact (1)	Landslides are likely to force short-term adaptation measures to maintain existing community subsistence and shoreline uses.
		Medium Impact (2)	Landslides are likely to cause significant impacts to or loss of community subsistence and shoreline uses, including shifts in food and resource availability.
		High Impact (3)	Landslides are likely to cause significant impacts to or loss of community subsistence and shoreline uses, including potentially irreversible shifts in food and resource availability. Regionally-important subsistence resources likely impacted with cascading impacts to other communities in the region.
Land Use / Geographic Location - Deep-Seated Landslide Susceptibility	Percent of community located in area mapped as high risk for deep-seated landslide susceptibility	No Impact (0)	No areas mapped as score 8-10 deep-seated landslide susceptibility located within the 20 miles of the community.
		Low Impact (1)	Less than 1% of area mapped as score 8-10 deep seated landslide susceptibility located within 20 miles of the community.
		Medium Impact (2)	Between 1 and 30% of area mapped as score 8-10 deep seated landslide susceptibility located within 20 miles of the community.
		High Impact (3)	A minimum of 30% of the community is mapped as score 8-10 deep seated landslide susceptibility located within 20 miles of the community.
Housing Distribution	N/A	No Impact (0)	N/A
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	N/A
Environmental Threat	Environmental threat addressed the potential or capacity for the hazard to degrade the air or water quality, and/or increase human exposure to hazardous substances or waste. If a community	No Impact (0)	Landslides are unlikely to cause environmental impacts in the community.
		Low Impact (1)	Landslides may cause localized, site-specific environmental impacts

Evaluation Factors	Definition	Impact Rating	Justification
	was considered to be in danger of losing a primary source of water due to contamination, damages to water or wastewater facilities, or damages to fuel tanks which could cause environmental impacts both to the community and the region received high score.	Medium Impact (2)	Landslides have already or are likely to cause significant environmental impacts to the community.
		High Impact (3)	Landslides have already or are likely to cause significant environmental impacts both to the community and region.
Cultural Importance	Cultural importance measured threat-related impacts to historically and culturally significant sites such as cemeteries and artifacts. A situation where documented cultural and historic resources are likely to be damaged or lost due to threat received a higher impact rating.	No Impact (0)	Landslides are unlikely to cause impacts to community cultural locations.
		Low Impact (1)	Landslides may cause localized, site-specific cultural impacts
		Medium Impact (2)	Landslides have already or are likely to cause significant impacts to community important cultural locations.
		High Impact (3)	Landslides have already or are likely to cause significant impacts to community and regionally important cultural locations.
Commercial Infrastructure and Economic Impacts	Commercial infrastructure involved measuring the impact of a threat on commercial services in the community such as stores, fuel supply, barge landings, and other cash-generating businesses. If a community was in danger of losing its only store, or if the store might close for an extended period of time, that area received a higher impact rating.	No Impact (0)	Landslides are unlikely to cause impacts to community business or result in meaningful economic impacts.
		Low Impact (1)	Landslides may cause localized, site-specific economic impacts to businesses
		Medium Impact (2)	Landslides have already or are likely to cause significant impacts to important community commercial businesses causing significant community economic impacts
		High Impact (3)	Landslides have already or are likely to cause significant impacts to community and regionally important commercial businesses causing widespread economic impacts
Changing Conditions / Trends	Changing conditions addresses conditions either worsening or improving impacts to the community during the threat, and new or emerging threats experienced by a community.	No Impact (0)	Changing conditions since 2017 improves or has no impact on threat that the community is experiencing.
		Low Impact (1)	Changing conditions since 2017 have worsened impacts from the threat and/or changing conditions are projected to worsen impacts by mid-century. New threats have emerged and/or are projected to

Evaluation Factors	Definition	Impact Rating	Justification
			emerge by mid- or late-century but impacts from new or worsening threats would not result in loss of community sustainability. Additional funding or resources not expected to be required in order to manage new or worsening threat.
		Medium Impact (2)	Changing conditions have worsened impacts from the threat since 2017 and/or changing conditions are projected to worsen impacts by mid-century. Changing conditions have identified new threat and/or are projected to identify a new threat by mid-century. New or worsening impacts require additional resources (funding) to manage.
		High Impact (3)	Changing conditions have worsened impacts from the threat since 2017 and/or changing conditions are projected to worsen impacts by mid-century. New and/or worsening impacts are considered catastrophic and would significantly reduce community sustainability. Full or partial relocations have already been considered and/or will need to be considered based on changing conditions.

Permafrost

Evaluation Factors	Definition	Impact Rating	Justification
Past Impact/GIS Analysis - Erosion Exposure Risk	PRELIMINARY SCORE of permafrost score from 2019 STA to indicate past impact	No Impact (0)	2019 STA preliminary permafrost score = 0.
		Low Impact (1)	2019 STA Preliminary permafrost score=5-8.
		Medium Impact (2)	2019 STA Preliminary permafrost score = 9-11.
		High Impact (3)	2019 STA Preliminary permafrost score = 12-15.
Critical Infrastructure and Community Services	Critical infrastructure included facilities in the community that, if destroyed, would affect the community's viability if not replaced quickly. Critical infrastructure include clinics, water supply, roads and airports, water/wastewater systems, water storage, schools, and the Post Office.	No Impact (0)	Permafrost impacts not expected to impact critical infrastructure in the community and no services loss is anticipated
		Low Impact (1)	Permafrost impacts to critical infrastructure are likely limited and may result in only short-term service loss
		Medium Impact (2)	Permafrost impacts have or are likely to impact numerous critical infrastructure locations and result in long-term service loss
		High Impact (3)	Permafrost impacts have or are likely to impact numerous critical infrastructure locations that are regionally significant and result in long-term service loss
Emergency Services and Human Health and Safety	Human health and safety focused on a community's ability to seek emergency services due to a threat. For example, if a road that connects a community to emergency services would be threatened, or if airport facilities would be jeopardized, the community impact was rated high. Damage to critical infrastructure affects human health and safety only when the damage directly impacts the delivery of health services. For example, damage to a clinic would impact health and safety only if the damage is severe enough to impede health services. As such, the impacts to infrastructure may affect the rating of both critical infrastructure and human health and safety.	No Impact (0)	Permafrost impacts not expected to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		Low Impact (1)	Permafrost impacts unlikely disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		Medium Impact (2)	Permafrost impacts likely to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		High Impact (3)	Permafrost impacts are likely to compromise regionally important evacuation routes, medical facilities, medical transport, or emergency response services. This greatly increases risks to life and safety with cascading impacts to other communities in the region.

Evaluation Factors	Definition	Impact Rating	Justification
Subsistence and Shoreline Use	Subsistence and shoreline use examined whether the community's ability to gather natural resources would be threatened. For example, if a community lost the ability to launch boats or if the only land available for processing catch was compromised, the community impact was rated high.	No Impact (0)	Permafrost impacts are not anticipated to change the community's subsistence or shoreline uses.
		Low Impact (1)	Permafrost impacts are likely to force short-term adaptation measures to maintain existing community subsistence and shoreline uses.
		Medium Impact (2)	Significant or repeated impacts related to permafrost thaw are likely to cause significant impacts to or loss of community subsistence and shoreline uses, including shifts in food and resource availability.
		High Impact (3)	Permafrost impacts are already causing significant impacts to or loss of community subsistence and shoreline uses, including shifts in food and resource availability.
Land Use / Geographic Location Proximity to Historically Active Volcanos of Alaska	Land use/geographic location focused on whether a community has room to retreat from a threat, whether the land is highly susceptible to that threat, and the community's relative impact on surrounding communities. For example, a community situated on a spit of land affected by a threat with no area to retreat was rated high. If the community was situated on a bluff with adequate safe ground, the impact was rated low. An impacted community serving as a hub, providing goods and services to other communities, received a higher impact rating. Regional communities such as Galena, Nome, Bethel, Kotzebue or Barrow are transportation hubs, and health centers. As a consequence, loss of services in these communities directly impact surrounding communities.	No Impact (0)	Current community development and future planned development areas are outside existing and potential future risk areas.
		Low Impact (1)	Current community development is outside risk areas, but future planned development could encroach on existing or potential future risk areas.
		Medium Impact (2)	Current community development is within risk area, but areas for future development and strategic retreat have been identified outside of existing and potential future risk areas.
		High Impact (3)	Current community development is within risk areas and no areas for future development and strategic retreat have been identified outside of existing or potential future risk areas
Housing Distribution	Housing distribution evaluated the manner by which a community's housing layout could exacerbate damages from a threat. The	No Impact (0)	Permafrost impacts are not anticipated to impact the community's housing stock, displacing no residents; alternative housing not needed.

Evaluation Factors	Definition	Impact Rating	Justification
	impact to a spread-out community with a small percentage of housing at risk was rated lower, whereas the impact to a community with a condensed utility corridor at risk was rated higher.	Low Impact (1)	Permafrost impacts are likely to impact some of the community housing stock; displacing some residents; alternative housing may be found within the community.
		Medium Impact (2)	Permafrost impacts are likely to impact the majority of housing stock in the community.
		High Impact (3)	Permafrost impactss have or are likely to impact the majority of housing stock in the community, displacing a significant number of residents.
Environmental Threat	Environmental threat addressed the potential or capacity for erosion, flooding, or thawing permafrost to degrade the water quality, and/or increase human exposure to waste. If a community was considered to be in danger of losing a fuel tank or landfill, or of having a wastewater lagoon breached, the threat received a high impact rating.	No Impact (0)	Permafrost impacts are unlikely to cause environmental impacts in the community.
		Low Impact (1)	Permafrost impacts may cause localized, site-specific environmental impacts.
		Medium Impact (2)	Permafrost impacts have already or are likely to cause significant environmental impacts to the community.
		High Impact (3)	Permafrost impacts have already or are likely to cause significant environmental impacts both to the community and region.
Cultural Importance	Cultural importance measured threat-related impacts to historically and culturally significant sites such as cemeteries and artifacts. A situation where documented cultural and historic resources are likely to be damaged or lost due to threat received a higher impact rating.	No Impact (0)	Permafrost impacts are unlikely to cause impacts to community cultural locations.
		Low Impact (1)	Permafrost impacts may cause localized, site-specific cultural impacts
		Medium Impact (2)	Permafrost impacts have already or are likely to cause significant impacts to community important cultural locations.
		High Impact (3)	Permafrost impacts have already or are likely to cause significant impacts to community and regionally important cultural locations.
Commercial Infrastructure and Economic Impacts	Commercial infrastructure involved measuring the impact of a threat on commercial services in the community such as stores, fuel supply, barge landings, and other cash-generating businesses. If a community was in danger of losing its only store, or if the store might close for an	No Impact (0)	Permafrost impacts are unlikely to cause impacts to community business or result in meaningful economic impacts
		Low Impact (1)	Permafrost impacts may cause localize, site-specific economic impacts to businesses
		Medium Impact (2)	Permafrost impacts have already or are likely to cause significant impacts to important community

Evaluation Factors	Definition	Impact Rating	Justification
	extended period of time, that area received a higher impact rating.		commercial businesses causing significant community economic impacts
		High Impact (3)	Permafrost impacts have already or are likely to cause significant impacts to community and regionally important commercial businesses causing widespread economic impacts
Changing Conditions / Trends	Changing conditions addresses conditions either worsening or improving impacts to the community during the threat, and new or emerging threats experienced by a community.	No Impact (0)	No permafrost
		Low Impact (1)	Permafrost coverage in community is largely isolated or absent and projected changes to no permafrost by mid-century (2040-2069; RCP 8.5). OR permafrost coverage in community is sporatic or discontinuous and projection for change by late-century (2070-2099) does not suggest significant change in sporatic or discontinuous permafrost (no permafrost is projected to be less than 50% coverage). OR permafrost modeling does not exist for this location though permafrost occurrence mapping is available and at a minimum isolated (score 1 or greater).
		Medium Impact (2)	Permafrost coverage in community is sporatic or discontinuous and projection for no permafrost by late-century (2070-2099; RCP 8.5; no permafrost at minimum 50% coverage). Permafrost coverage continuous and projection for spotty (sporatic or permafrost likely) permafrost by late-century (2070-2099; RCP 8.5).
		High Impact (3)	Permafrost coverage in community is sporatic or discontinuous and projection for no permafrost by mid-century (2040-2069; RCP 8.5; minimum 50% coverage). Permafrost coverage continuous and projection for spotty (sporatic or permafrost likely) permafrost by mid-century (2040-2069; RCP 8.5). Full or partial relocations have already been considered and/or will need to be considered based on changing conditions.

Preliminary Evaluation: Kanevskiy et al. 2019

Evaluation Factors	Definition	Impact Rating	Justification
Permafrost Occurrence	PF occurrence based on the upper ~10 m of permafrost	No Impact (0)	No permafrost
		Low Impact (1)	Mostly unfrozen soils with isolated patches of PF
		Medium Impact (2)	Discontinuous / Sporadic
		High Impact (3)	Continuous
Permafrost Temperature	Mean annual ground temperature (MAGT)	No Impact (0)	No permafrost
		Low Impact (1)	MAGT < 5°C
		Medium Impact (2)	MAGT = -5 to -2°C
		High Impact (3)	MAGT = -2 to >0°C
Massive ice occurrence	Occurrence of large ice bodies near the surface makes communities extremely vulnerable to permafrost thawing even in the area with very low permafrost temperatures.	No Impact (0)	No permafrost
		Low Impact (1)	No massive ice
		Medium Impact (2)	Sparse small to medium ice wedges (inactive of slightly active) and/or rare occurrence of buried ice
		High Impact (3)	Abundant large ice wedges close to the surface (yedoma and/or active modern wedges) and/or large bodies of buried glacier ice close to the surface.
Thaw susceptibility	Thaw susceptibility refers to how likely frozen ground is to thaw and undergo physical changes—such as subsidence—when exposed to warming or disturbance. Thaw settlement is the vertical ground subsidence that occurs when ice-rich permafrost thaws.	No Impact (0)	No permafrost
		Low Impact (1)	Almost no excess ice, thaw settlement is less than ~0.1 m. Presence of drained thaw lake basins (DTLB).
		Medium Impact (2)	Thaw settlement is ~0.2-0.7m
		High Impact (3)	Thaw settlement is more than 1 m
Existing permafrost-related problems		No Impact (0)	No permafrost
		Low Impact (1)	No permafrost-related problems (or minor problems)
		Medium Impact (2)	Moderate problems

Tsunami

Evaluation Factors	Definition	Impact Rating	Justification
Past Impact/GIS Analysis	Previous reports of tsunami impacts or current GIS data available notes whether community is considered at risk from potential tsunami events.	No Impact (0)	Community is not coastal (within 20 miles of coast). Or, coastal community located north of the Bering Strait.
		Low Impact (1)	Coastal community with no history of impacts from tsunami. Or insufficient data available to assess risk.
		Medium Impact (2)	One or more tsunami events (including warnings) have impacted community in past 20 years.
		High Impact (3)	One or more tsunami events (including warnings) have significantly impacted community in past 20 years. Damages to community that serve as regional hub has had cascading impacts to other communities in the region.
Critical Infrastructure and Community Services	Critical infrastructure included facilities in the community that, if destroyed, would affect the community's viability if not replaced quickly. Critical infrastructure include clinics, water supply, roads and airports, water/wastewater systems, water storage, schools, and the Post Office.	No Impact (0)	Tsunami is not expected to impact critical infrastructure in the community and no service loss anticipated.
		Low Impact (1)	Tsunami impacts to critical infrastructure is likely limited and may result in only short-term service loss.
		Medium Impact (2)	Tsunami is likely to impact numerous critical infrastructure locations and result in long-term service loss.
		High Impact (3)	Tsunami is likely to impact numerous critical infrastructure locations that are regionally significant and result in long-term service loss.
Emergency Services and Human Health and Safety	Human health and safety focused on a community's ability to seek emergency services due to a threat. For example, if a road that connects a community to emergency services would be threatened, or if airport facilities would be jeopardized, the community impact was rated high. Damage to critical infrastructure affects human health and safety only when the damage directly impacts the delivery of health services. For example, damage to a clinic	No Impact (0)	Tsunami is not expected to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		Low Impact (1)	Tsunami unlikely to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		Medium Impact (2)	Tsunami likely to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		High Impact (3)	Tsunami likely to disrupt regionally important evacuation routes, medical facilities, medical

Evaluation Factors	Definition	Impact Rating	Justification
	would impact health and safety only if the damage is severe enough to impede health services. As such, the impacts to infrastructure may affect the rating of both critical infrastructure and human health and safety.		transport, or emergency response services. This greatly increases risks to life and safety with cascading impacts to other communities in the region.
Subsistence and Shoreline Use	Subsistence and shoreline use examined whether the community's ability to gather natural resources would be threatened. For example, if a community lost the ability to launch boats or if the only land available for processing catch was compromised, the community impact was rated high.	No Impact (0)	Tsunami is not anticipated to change the community's subsistence or shoreline uses.
		Low Impact (1)	Tsunami is likely to force short-term adaptation measures to maintain existing community subsistence and shoreline uses.
		Medium Impact (2)	Tsunami is likely to cause significant impacts to or loss of community subsistence and shoreline uses, including shifts in food and resource availability.
		High Impact (3)	Tsunami is likely to cause significant impacts to or loss of community subsistence and shoreline uses, including potentially irreversible shifts in food and resource availability. Regionally-important subsistence resources likely impacted with cascading impacts to other communities in the region.
Land Use / Geographic Location - Maximum Inundation Extent from Alaska Earthquake Center and DGGS	Location of community in relation to Coast and considering if the community has at least a mapped in the Maximum Inundation Extent. If data are not available, the score should not be a 0 so "low impact" is assumed for all coastal communities with no tsunami hazard map available.	No Impact (0)	Community is not coastal (within 20 miles of coast). Or, coastal community located north of the Bering Strait.
		Low Impact (1)	Coastal community with data not available.
		Medium Impact (2)	N/A
		High Impact (3)	Coastal community with at least a portion of the community in the Maximum Inundation Extent Area.
Housing Distribution	N/A	No Impact (0)	N/A
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	N/A
Environmental Threat	Environmental threat addressed the potential or capacity for the hazard to degrade the air or water quality, and/or increase human exposure to hazardous	No Impact (0)	Tsunami events are unlikely to cause environmental impacts in the community.
		Low Impact (1)	Tsunami events may cause localized, site-specific environmental impacts.

Evaluation Factors	Definition	Impact Rating	Justification
	substances or waste. If a community was considered to be in danger of losing a primary source of water due to contamination, damages to water or wastewater facilities, or damages to fuel tanks which could cause environmental impacts both to the community and the region received high score.	Medium Impact (2)	Tsunami events have already or are likely to cause significant environmental impacts to the community.
		High Impact (3)	Tsunami events have already or are likely to cause significant environmental impacts both to the community and region.
Cultural Importance	Cultural importance measured threat-related impacts to historically and culturally significant sites such as cemeteries and artifacts. A situation where documented cultural and historic resources are likely to be damaged or lost due to threat received a higher impact rating.	No Impact (0)	Tsunami events are unlikely to cause impacts to community cultural locations.
		Low Impact (1)	Tsunami events may cause localized, site-specific cultural impacts
		Medium Impact (2)	Tsunami events have already or are likely to cause significant impacts to community important cultural locations.
		High Impact (3)	Tsunami events have already or are likely to cause significant impacts to community and regionally important cultural locations.
Commercial Infrastructure and Economic Impacts	Commercial infrastructure involved measuring the impact of a threat on commercial services in the community such as stores, fuel supply, barge landings, and other cash-generating businesses. If a community was in danger of losing its only store, or if the store might close for an extended period of time, that area received a higher impact rating.	No Impact (0)	Tsunami events are unlikely to cause impacts to community business or result in meaningful economic impacts.
		Low Impact (1)	Tsunami events may cause localize, site-specific economic impacts to businesses
		Medium Impact (2)	Tsunami events have already or are likely to cause significant impacts to important community commercial businesses causing significant community economic impacts
		High Impact (3)	Tsunami events have already or are likely to cause significant impacts to community and regionally important commercial businesses causing widespread economic impacts
Changing Conditions / Trends	N/A	No Impact (0)	N/A
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	N/A

Volcano

Evaluation Factors	Definition	Impact Rating	Justification
Past Impact/GIS Analysis - Volcanic Ash and Tephra	Tephra fall (volcanic ash) studies are a used to understand the frequency and magnitude of past volcanic eruptions. Past impacts are evaluated using the volcanic ash and tephra fall database, which is based on past eruptions and sediment samples to inform hazard areas and to assess eruption frequency, magnitude, and character of past eruptions.	No Impact (0)	Community is located outside defined volcanic ash and tephra fall hazard areas and has not been previously impacted by volcanic eruptions, including distant eruptions.
		Low Impact (1)	Community is located in an area mapped as Low or Low-Moderate; or insufficient data and reports available to evaluate community volcano risk.
		Medium Impact (2)	Community is located in an area mapped as Moderate.
		High Impact (3)	Community is located in an area mapped as High.
Critical Infrastructure and Community Services	Critical infrastructure included facilities in the community that, if damaged or disrupted, would affect the community's viability if not replaced quickly. Critical infrastructure include clinics, water supply, roads and airports, water/wastewater systems, water storage, schools, and the Post Office. Impacts to communities serving as a regional hub have cascading impacts to other communities in the region.	No Impact (0)	Volcano eruptions, including ashfall from distant eruptions, are not expected to impact critical infrastructure in the community and no service loss anticipated. Community has NOT listed volcano as a threat to critical infrastructure in HMP [or interview]. Community DOES NOT rely on air transportation and/or delivery of supplies and/or has sufficient redundancy or storage of supplies that mitigate vulnerability if airplanes are grounded and deliveries are disrupted. Community has stated in HMP [or in interview] that it DOES currently have adequate storage of supplies (e.g. ash masks) or equipment (e.g. air filters, water intake filters) to mitigate health risks.
		Low Impact (1)	Volcano eruptions, including ashfall from distant eruptions, and corresponding impacts to critical infrastructure is likely limited and may result in only short-term service loss.
		Medium Impact (2)	Volcano eruptions, including ashfall from distant eruptions, are likely to impact numerous critical infrastructure locations and result in short- or long-term service loss.
		High Impact (3)	Volcano eruptions, including ashfall from distant eruptions, are likely to impact numerous critical

Evaluation Factors	Definition	Impact Rating	Justification
			infrastructure locations that are regionally significant and result in short- or long-term service loss.
Emergency Services and Human Health and Safety	Human health and safety focused on a community's ability to seek emergency services due to a threat. For example, if a road that connects a community to emergency services would be threatened, or if airport facilities would be jeopardized, the community impact was rated high. Damage to critical infrastructure affects human health and safety only when the damage directly impacts the delivery of health services. For example, damage to a clinic would impact health and safety only if the damage is severe enough to impede health services. As such, the impacts to infrastructure may affect the rating of both critical infrastructure and human health and safety.	No Impact (0)	Volcano eruptions, including ashfall from distant eruptions, are not expected to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		Low Impact (1)	Volcanic eruptions, including ashfall from distant volcanoes, are unlikely to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		Medium Impact (2)	Volcanic eruptions, including ashfall from distant volcanoes, are likely to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services.
		High Impact (3)	Volcanic eruptions, including ashfall from distant volcanoes, are likely to compromise regionally important evacuation routes, medical facilities, medical transport, or emergency response services. This greatly increased risks to life and safety with cascading impacts to other communities in the region.
Subsistence and Shoreline Use	Subsistence and shoreline use examined whether the community's ability to gather natural resources would be threatened. For example, if a community lost the ability to launch boats or if the only land available for processing catch was compromised, the community impact was rated high.	No Impact (0)	Volcanic eruptions, including ashfall from distant volcanoes, are not anticipated to change the community's subsistence or shoreline uses or expected to benefit subsistence and shoreline uses.
		Low Impact (1)	Volcanic eruptions, including ashfall from distant volcanoes, are likely to force short-term adaptation measures to maintain existing community subsistence and shoreline uses.
		Medium Impact (2)	Volcanic eruptions, including ashfall from distant volcanoes, are likely to cause significant impacts to or loss of community subsistence and shoreline uses, including shifts in food and resource availability.
		High Impact (3)	Volcanic eruptions, including ashfall from distant volcanoes, are likely to cause significant impacts to or loss of community subsistence and shoreline uses, including potentially irreversible shifts in food and

Evaluation Factors	Definition	Impact Rating	Justification
			resource availability. Regionally-important subsistence resources likely impacted with cascading impacts to other communities in the region.
Land Use / Geographic Location Proximity to Historically Active Volcanos of Alaska	Proximity to AVO tracked volcano listed at the time of this methodology update (December 2025).	No Impact (0)	Community is located greater than 300 miles away from a volcano tracked by AVO including alert levels green (normal), yellow (advisory), orange (watch) or red (warning); near field hazards and secondary hazards not possible. No impacts to community from distant eruption.
		Low Impact (1)	Community is located greater than 300 miles away from a volcano tracked by AVO including alert levels green (normal), yellow (advisory), orange (watch) or red(warning); near field and secondary hazards not possible. Community may be impacted by distant eruptions through potential "trace" or "minor" ash. OR located less than 100 miles from a volcano that is "instrumented" based on AVO tracking system, indicating volcano was active historically but no activity within the last 10,000 years.
		Medium Impact (2)	Community is located 100-300 miles away from a volcano tracked by AVO (including alert levels green (normal), yellow (advisory), orange (watch) or red(warning); near field hazards not possible. Community may be impacted by regional eruptions through potential "trace," "minor," or "moderate" ash; nearfield and secondary hazards not possible due to proximity.
		High Impact (3)	Community is located less than 100 miles from a volcano tracked by AVO (including alert levels green (normal), yellow (advisory), orange (watch) or red (warning). Potential for "heavy," "very heavy" or "severe" ash which can result in significant health concerns from eye irritation, respiratory problems, and contamination of drinking water; damages to infrastructure; disruption of communication and transportation including roads; and resulting in heavy plant and animal loss. Near field hazards not likely (e.g. lahars and floods; volcanic gases;

Evaluation Factors	Definition	Impact Rating	Justification
			pyroclastic flows and surges; ballistics; lava flows; rockfalls, landslides, and avalanches; and directed blasts) but secondary hazards possible (e.g. volcanic mudflows, floods from rapid snow melt, and landslides on unstable slopes).
Housing Distribution	N/A	No Impact (0)	N/A
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	N/A
Environmental Threat	Environmental threat addressed the potential or capacity for the hazard to degrade the air or water quality, and/or increase human exposure to hazardous substances or waste. If a community was considered to be in danger of losing a primary source of water due to contamination, damages to water or wastewater facilities, or damages to fuel tanks which could cause environmental impacts both to the community and the region received high score.	No Impact (0)	Volcanic eruptions, including ashfall from distant volcanoes, are unlikely to cause environmental impacts in the community.
		Low Impact (1)	Volcanic eruptions, including ashfall from distant volcanoes, may cause localized, site-specific environmental impacts
		Medium Impact (2)	Volcanic eruptions, including ashfall from distant volcanoes, have already or are likely to cause significant environmental impacts to the community.
		High Impact (3)	Volcanic eruptions, including ashfall from distant volcanoes, have already or are likely to cause significant environmental impacts both to the community and region.
Cultural Importance	Cultural importance measured threat-related impacts to historically and culturally significant sites such as cemeteries and artifacts. A situation where documented cultural and historic resources are likely to be damaged or lost due to threat received a higher impact rating.	No Impact (0)	Volcanic eruptions, including ashfall from distant volcanoes, are unlikely to cause impacts to community cultural locations.
		Low Impact (1)	Volcanic eruptions, including ashfall from distant volcanoes, may cause localized, site-specific cultural impacts
		Medium Impact (2)	Volcanic eruptions, including ashfall from distant volcanoes, have already or are likely to cause significant impacts to community important cultural locations.
		High Impact (3)	Volcanic eruptions, including ashfall from distant volcanoes, have already or are likely to cause significant impacts to community and regionally important cultural locations.

Evaluation Factors	Definition	Impact Rating	Justification
Commercial Infrastructure and Economic Impacts	Commercial infrastructure involved measuring the impact of a threat on commercial services in the community such as stores, fuel supply, barge landings, and other cash-generating businesses. If a community was in danger of losing its only store, or if the store might close for an extended period of time, that area received a higher impact rating.	No Impact (0)	Volcanic eruptions, including ashfall from distant volcanoes, are unlikely to cause impacts to community business or result in meaningful economic impacts. Volcano-related tourism currently or may in the future may result in economic benefit to the community.
		Low Impact (1)	Volcanic eruptions, including ashfall from distant volcanoes, may cause localize, site-specific economic impacts to businesses
		Medium Impact (2)	Volcanic eruptions, including ashfall from distant volcanoes, have already or are likely to cause significant impacts to important community commercial businesses causing significant community economic impacts
		High Impact (3)	Volcanic eruptions, including ashfall from distant volcanoes, have already or are likely to cause significant impacts to community and regionally important commercial businesses causing widespread economic impacts
Changing Conditions / Trends	N/A	No Impact (0)	N/A
		Low Impact (1)	N/A
		Medium Impact (2)	N/A
		High Impact (3)	N/A

Wildfire

Evaluation Factors	Definition	Impact Rating	Justification
Past Impact/GIS Analysis - Wildfire History	Previous history of wildfires.	No Impact (0)	Previous history of wildfires.
		Low Impact (1)	Community is located in an area mapped as Low or Low-Moderate; or insufficient data and reports available to evaluate community volcano risk.
		Medium Impact (2)	Community is located in an area mapped as Moderate.
		High Impact (3)	Community is located in an area mapped as High.
Critical Infrastructure and Community Services	Critical infrastructure included facilities in the community that, if destroyed, would affect the community's viability if not replaced quickly. Critical infrastructure include clinics, water supply, roads and airports, water/wastewater systems, water storage, schools, and the Post Office.	No Impact (0)	Wildfire not expected to impact critical infrastructure in the community and no service loss anticipated.
		Low Impact (1)	Wildfire impacts to critical infrastructure is likely limited and may result in only short-term service loss.
		Medium Impact (2)	Wildfires are likely to impact numerous critical infrastructure locations and result in long-term service loss.
		High Impact (3)	Wildfires are likely to impact numerous critical infrastructure locations that are regionally significant and result in long-term service loss.
Emergency Services and Human Health and Safety	Human health and safety focused on a community's ability to seek emergency services due to a threat. For example, if a road that connects a community to emergency services would be threatened, or if airport facilities would be jeopardized, the community impact was rated high. Damage to critical infrastructure affects human health and safety only when the damage directly impacts the delivery of health services. For example, damage to a clinic would impact health and safety only if the damage is severe enough to impede health services. As such, the impacts to infrastructure may affect the rating of both critical infrastructure and human health and safety.	No Impact (0)	Wildfire activity is not expected to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services. Smoke from regional fires is also not expected to degrade local air quality.
		Low Impact (1)	Wildfires unlikely to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services. Smoke from regional fires is also unlikely to degrade local air quality.
		Medium Impact (2)	Wildfire likely to disrupt community evacuation routes, medical facilities, medical transport, or emergency response services. Smoke from regional fires is also likely to degrade local air quality.
		High Impact (3)	Wildfires likely to compromise regionally important evacuation routes, medical facilities, medical transport, and emergency response services. This greatly increases risks to life and safety with cascading

Evaluation Factors	Definition	Impact Rating	Justification
			impacts to other communities in the region. Smoke from regional fires is also currently impacting local air quality and likely to continue in the future.
Subsistence and Shoreline Use	Subsistence and shoreline use examined whether the community's ability to gather natural resources would be threatened. For example, if a community lost the ability to launch boats or if the only land available for processing catch was compromised, the community impact was rated high.	No Impact (0)	Wildfires are not anticipated to change the community's subsistence or shoreline uses. Wildfire may benefit community's subsistence or shoreline uses through regeneration and forest health benefits from fire.
		Low Impact (1)	Wildfires are likely to force short-term adaptation measures to maintain existing community subsistence and shoreline uses.
		Medium Impact (2)	Wildfires are likely to cause significant impacts to or loss of community subsistence and shoreline uses, including shifts in food and resource availability.
		High Impact (3)	Wildfires are likely to cause significant impacts to or loss of community subsistence and shoreline uses, including potentially irreversible shifts in food and resource availability. Regionally-important subsistence resources likely impacted with cascading impacts to other communities in the region.
Land Use / Geographic Location - Wildfire exposure	Percent of community located in area mapped in high or extreme wildfire exposure	No Impact (0)	No areas mapped as high or extreme wildfire exposure within 10 miles of the community.
		Low Impact (1)	Less than 1% of area mapped as high or extreme wildfire exposure within 10 miles of the community
		Medium Impact (2)	Between 1 and 30% of area mapped as high or extreme wildfire exposure within 10 miles of the community
		High Impact (3)	More than 30% of the area maps as high or extreme wildfire exposure within 10 miles of the community
Housing Distribution	Housing distribution evaluated the manner by which a community's housing layout could exacerbate damages from a threat. The impact to a spread-out community with a small percentage of housing at risk was rated higher, whereas the impact to a community with a condensed utility corridor at risk was rated lower.	No Impact (0)	Wildfires are not anticipated to impact the community's housing stock, displacing no residents; alternative housing not needed.
		Low Impact (1)	Wildfires are likely to impact some of the community housing stock; displacing some residents; alternative housing may be found within the community.
		Medium Impact (2)	Wildfires are likely to impact the majority of housing stock in the community, displacing significant numbers

Evaluation Factors	Definition	Impact Rating	Justification
			of residents; some adjacent communities may be able to provide alternative housing
		High Impact (3)	Wildfires have or are likely to impact the majority of housing stock in the community, displacing significant numbers of residents with no adjacent communities available to provide alternative housing
Environmental Threat	Environmental threat addressed the potential or capacity for the hazard to degrade the air or water quality, and/or increase human exposure to hazardous substances or waste. If a community was considered to be in danger of losing a primary source of water due to contamination, damages to water or wastewater facilities, or damages to fuel tanks which could cause environmental impacts both to the community and the region received high score.	No Impact (0)	Wildfires are unlikely to cause environmental impacts in the community.
		Low Impact (1)	Wildfires may cause localized, site-specific environmental impacts
		Medium Impact (2)	Wildfires have already or are likely to cause significant environmental impacts to the community.
		High Impact (3)	Wildfires have already or are likely to cause significant environmental impacts both to the community and region.
Cultural Importance	Cultural importance measured threat-related impacts to historically and culturally significant sites such as cemeteries and artifacts. A situation where documented cultural and historic resources are likely to be damaged or lost due to threat received a higher impact rating.	No Impact (0)	Wildfires are unlikely to cause impacts to community cultural locations.
		Low Impact (1)	Wildfires may cause localized, site-specific cultural impacts
		Medium Impact (2)	Wildfires have already or are likely to cause significant impacts to community important cultural locations.
		High Impact (3)	Wildfires have already or are likely to cause significant impacts to community and regionally important cultural locations.
Commercial Infrastructure and Economic Impacts	Commercial infrastructure involved measuring the impact of a threat on commercial services in the community such as stores, fuel supply, barge landings, and other cash-generating businesses. If a community was in danger of losing its only store, or if the store might close for an	No Impact (0)	Wildfires are unlikely to cause impacts to community business or result in meaningful economic impacts.
		Low Impact (1)	Wildfires may cause localized, site-specific economic impacts to businesses
		Medium Impact (2)	Wildfires have already or are likely to cause significant impacts to important community commercial businesses causing significant community economic impacts

Evaluation Factors	Definition	Impact Rating	Justification
	extended period of time, that area received a higher impact rating.	High Impact (3)	Wildfires have already or are likely to cause significant impacts to community and regionally important commercial businesses causing widespread economic impacts
Changing Conditions / Trends	Changing conditions addresses conditions either worsening or improving impacts to the community during the threat, and new or emerging threats experienced by a community.	No Impact (0)	Changing conditions since 2017 improves or has no impact on threat that the community is experiencing.
		Low Impact (1)	Changing conditions since 2017 have worsened impacts from the threat and/or changing conditions are projected to worsen impacts by mid-century. New threats have emerged and/or are projected to emerge by mid- or late-century but impacts from new or worsening threats would not result in loss of community sustainability. Additional funding or resources not expected to be required in order to manage new or worsening threat.
		Medium Impact (2)	Changing conditions have worsened impacts from the threat since 2017 and/or changing conditions are projected to worsen impacts by mid-century. Changing conditions have identified new threat and/or are projected to identify a new threat by mid-century. New or worsening impacts require additional resources (funding) to manage.
		High Impact (3)	Changing conditions have worsened impacts from the threat since 2017 and/or changing conditions are projected to worsen impacts by mid-century. New and/or worsening impacts are considered catastrophic and would significantly reduce community sustainability. Full or partial relocations have already been considered and/or will need to be considered based on changing conditions.