

Kwigillingok Climate Crisis

Impacts of Permafrost Thaw
on Community Safety



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Prepared for the **Native Village of Kwigillingok**
by the **Alaska Institute for Justice**



Introduction

The Native Village of Kwigillingok, a federally recognized Tribe, is the main governing body of the community. Kwigillingok is home to 399 residents—an 18% growth over the past decade. Most residents identify as Alaska Native and are members of the Central Yup'ik culture. According to the 2020 US Census, there are 84 homes.

The village is located in the Yukon-Kuskokwim Delta. The geography of the community is comprised of low-lying lands that are prone to flooding. The frequency and severity of flooding have increased in recent years.

Urgent needs

Environmental data: Comprehensive environmental data collection is needed to provide the best information for climate adaptation planning.

Relocation of homes: Five homes in the community that collectively house 27 people, including 9 children, are in immediate need of relocation. The Tribe is determined to move vulnerable homes as soon as possible but lacks sufficient funding and proper equipment to safely do so.

Community relocation: Community-wide relocation is critically urgent. The village has been observing that non-storm flooding events are intensifying—damaging all infrastructure and endangering the people of Kwigillingok.



Data collection

The Native Village of Kwigillingok requires funding to support the collection, retention, and analysis of environmental data to make informed decisions about the future of their community.

The relevant environmental data includes the rate of permafrost thaw and erosion. In addition to this data, better storm forecasting and non-storm flood forecasting are needed to prepare for these extreme environmental events.

This information is significant to developing adaptation plans that ensure the safety and well-being of the community today and in the future.



Relocation of homes

The managed retreat of homes in Kwigillingok is urgent. Currently, five homes, which house 27 residents, are threatened by permafrost thaw and require immediate relocation.

The Tribe has previously moved several homes, demonstrating that with access to the proper equipment, it has the capacity and resolution to relocate individual structures. The survey and assessment of interim locations for those homes are imperative.



Community-wide relocation

To maintain its distinct cultural heritage and ensure a safer future, the Tribe has identified the need to relocate the entire village to a new location within the community's traditional homelands.

The collection of environmental data will support the Tribe's informed identification and selection of a new village site.

The Kuigilngurmiut have been the stewards of the land, plants, fish, and animals since time immemorial. The people of Kwigillingok want to protect their community and preserve their traditional ways of life. The Tribe wants to relocate within traditional homelands to maintain the community's deep cultural, spiritual, and historical connections to place.



A home being moved to a safer location by the Tribe



Boardwalks compromised by permafrost thaw and flooding

Kwigillingok climate crisis in photos



A non-storm flooding event.



A non-storm flooding event.



Non-storm flooding events are especially concerning because inundation is mixed with ocean water, which further accelerates permafrost thaw.

Kwigillingok climate crisis in photos



The barge landing is only centimeters above sea level, even during calm weather.



Some power lines are within centimeters of human traffic.



Traditional food preservation infrastructure is being impacted by water inundation.

Kwigillingok climate crisis in photos



Non-storm flooding. Boardwalks, the main and often only form of safe transit, are floating in the flood waters.



Uneven subsidence of the boardwalk is visible.



In the past several decades, the ground has subsided and is now dominated by grass rather than tundra shrubs. These tundra plants provide food and traditional medicine and are vital to both the physical health and cultural vitality of Indigenous people.

Mitigation actions taken by The Native Village of Kwigillingok

- Community based environmental monitoring of:
 - Permafrost thaw
 - Erosion
 - Flooding
 - Water quality
 - Soil quality assessments
 - Storm impacts
- Relocation of homes (2 homes moved with a small tractor)
- Community decision to relocate
- Identification of possible relocation sites
- Secured funding for Tribal resilience program
- Continuous repair to damaged foundations
- Renewal of Hazard Mitigation Plan
- Dialogue with near village on possible relocation site
- Elevated home to rebuild foundation
- Created and updated community safety plans
- Partnered with the Emergency Watershed Protection to relocate homes
- Partnered with NGOs to gather data and create reports on the environment

Thank you for taking the time to read this report and witness the scale of the climate crisis in the Native Village of Kwigillingok, Alaska.

This report was created on behalf of the Native Village of Kwigillingok by the Alaska Institute for Justice in September 2022.

Photos courtesy of the Tribal staff and the Alaska Institute for Justice.