

## PERMAFROST PATHWAYS

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# Advancing Adaptation Policy Responses to Permafrost Thaw in Alaska

Select Priority Action Areas to Enhance U.S. Federal Agency Support  
of Environmentally-Threatened Alaska Native Communities

Nunapitchuk, Alaska.

Photo by Susan Natali / Woodwell Climate Research Center

## Introduction

**THE CHALLENGE:** Rising temperatures and climate hazards are catalyzing irreversible changes to the Alaskan landscape and threatening the survival of communities across the region. Among the most dangerous phenomena is thawing permafrost, i.e., continuously frozen ground that underlies roughly 38% of the exposed land surface in Alaska (Pastick et al., 2015). As permafrost thaws, it destabilizes the ground on which homes, schools, roads, boardwalks, and critical infrastructure are built, causing these structures to flood, sink, or become inoperable. Other natural disturbances and extreme weather events, including Arctic-boreal wildfires, typhoons, sea-level rise, sea ice melt, and erosion, are further accelerating land degradation (Lantuit et al., 2012). Alaska's 229 Native Tribal communities are among those most affected by these impacts; despite successfully adapting to these challenges to date, the severity of permafrost thaw and impacts of climate change are forcing many communities to make difficult decisions about pursuing protection in place, managed retreat, or community-driven relocation (GAO, 2022).

**THE OPPORTUNITY:** Since the project launch, Permafrost Pathways has facilitated key opportunities for Tribal Liaisons from ten partner Alaska Native villages to meet with representatives from federal government agencies with the tools and authority to support the outcomes of these decisions. This includes representatives from the nearly 20 agencies, departments, and offices dedicated to enhancing scientific research and environmental protection in the Arctic, and the 10 federal agencies that the Government Accountability Office (GAO) has identified as administering programs to assist Alaska Native villages facing environmental threats. Representatives from Alaska state agencies have also joined these conversations (See "News + Updates" from Permafrost Pathways).

While the seriousness of these climate hazards and the imperative need for solutions have driven the dialogue, there has been no shortage of technical assistance and concrete solutions offered. As such, these convenings have helped to spotlight the ever-growing coalition of federal and state government actors, scientific researchers, policy strategists, NGOs, and Alaska Native communities that are working together to identify equitable, urgent, and just adaptation strategies to permafrost thaw.

# Policy Action Areas for Alaska Adaptation

The following priority action areas have been identified by Permafrost Pathways through several discussions with Alaska Native partners and federal agency experts. While not exhaustive, these action areas emerged as being especially ripe for further collaboration between the US federal government and Alaska Native communities affected by permafrost thaw.

**ACTION AREA 1:** Co-produced assessments and documentation of permafrost thaw, erosion, flooding, and resulting land change.

The US Government has taken positive steps towards enhanced Tribal engagement and recognition of Indigenous Knowledge as part of disaster response and climate adaptation planning. The release of FEMA's 2022-2026 National Tribal Strategy outlines the agency's obligations to federally recognized Tribal Nations, including those in Alaska, consistent with Federal Trust responsibilities and Tribal sovereignty. Such a statement of cooperation makes a strong case for integrating Indigenous Knowledge into hazard mitigation and climate adaptation planning and for the "co-production of knowledge." The US Government has formalized its position that the accuracy and quality of information is improved when local knowledge-holders are meaningfully involved in data collection, analysis, and representation; this involvement is also more likely to result in equitable and culturally appropriate adaptation planning.

**Policy Pathway: Develop a standardized definition for co-production for federal agencies, parameters for implementation, and terms for data sovereignty.**

There is persistent uncertainty surrounding the concept of "co-production" and meaningful community consultation and how these practices may be operationalized in real-time. This ambiguity may be undermining the efforts of federal agencies and communities alike to establish and replicate best practices for collaboration—particularly in the context of environmental monitoring and assessment. Fortunately, there is plenty of source material from which to draw (Yua, 2022), including guidance from specific agencies (e.g. NOAA Guidance and Best

Practices for Engaging and Incorporating Indigenous Knowledge in Decision-Making . Federal programs from the Natural Resources Conservation Service (NRCS) of the US Department of Agriculture, FEMA, and US Army Corps of Engineers, for example, are actively working with Alaska Native communities to conduct on-site assessment of landscape changes; in doing so, these agencies have often effectively integrated Western science and Indigenous Knowledge to support community-led adaptation. This includes the development of more accurate flood and erosion maps, installing weather stations, and testing soil composition for potential community relocation sites. Agency experts will attest that working with local experts who have an unparalleled understanding of the land improves the efficacy of collaboration.

Formalizing best practices for co-production as part of these iterative and community-led programs may help establish a precedent for information collection rooted in principles of justice and equity. Best practices may include minimum requirements for consultation to verify the accuracy of information during the collection and representation phases – via maps, photographs, and narrative explanations. Formalizing a definition and process for co-production may also ensure that agency programs allocate sufficient time and funding to work with communities and establish an arrangement for how this information may be used and reproduced.

**ACTION AREA 2:** Catalog federal programs available to Alaska Native Tribes to support community-led adaptation planning and climate resilience.

Several federal agencies have mandates and corresponding programs to support communities affected by extreme weather and climate hazards. Consider, inter alia, NRCS' Emergency Watershed Program and Watershed and Flood Prevention Program; the Denali Commission's Village Infrastructure Protection program; HUD's Development Block Grants and Imminent Threat grants; and FEMA's Hazard Mitigation Grant program. Those working at these agencies can detail the respective programs that they administer and provide details to civil society via public information sessions or individual requests. Enhanced attention from the Biden Administration to climate resilience has supported an influx of funding for many of these programs, including FEMA's Building Resilient Infrastructure and Communities program. Tracking these programs and the available support for Alaska



Native communities, becomes more challenging as the universe of options becomes more expansive.

Moreover, while some Alaska Native communities have access to development offices or grant writers, there are many communities that do not have the capacity to monitor and respond to application calls. The Alaska Native Tribal Health Consortium (ANTHC), through its Center for Environmentally Threatened Communities, has been effective in helping communities to translate adaptation and resilience needs into fundable projects and facilitating connections with responsible agencies; yet the need for this type of support far exceeds the capacity that ANTHC or other entity can currently provide.

**Policy Pathway: Consolidate information on the availability, purpose, scope, and deadlines of federal programs that may be most applicable to Alaska Native communities.**

Creating higher baselines of mutual understanding among agencies and Alaska Native communities is an important step towards better government support of community adaptation and resilience needs. As there are variations in the frequency and context of interactions between federal agencies and Alaska Native communities, agencies do not always report the most up-to-date knowledge of community priorities; Alaska Native communities report remaining uncertainty as to what public support is available and most applicable to a particular need. While some third-party entities, including ANTHC, and the Alaska Municipal League, the Alaska Climate Adaptation Science Center, among others, are helping to track grant opportunities and funding deadlines for communities, the federal government has not readily assumed this coordination role.

Ensuring that communities are aware of and can access federal programs may require more innovative approaches to information dissemination and access—particularly around the functioning of federal agencies, the capacity challenges of Tribes, and the available disaster response and climate adaptation programs. Such innovation may take the form of designating agency focal points to regularly attend community meetings or conferences in Alaska, holding quarterly information sessions to share out on new programs or funding deadlines, or creating an online platform to consolidate grant deadlines and submit application support needs.

**ACTION AREA 3: Equitable hazard mitigation planning for Alaska Native communities facing slow(er)-onset environmental threats that pose imminent health and safety risks.**

Mitigation planning is designed to help communities understand risks from natural hazards and to develop long-term strategies to reduce negative impacts of these hazards; pursuant to the Stafford Act ( 42 USC § 5121 ) and its enabling regulations, hazard mitigation plans (HMPs) are also a prerequisite to receiving certain types of non-emergency disaster assistance. FEMA is familiar with providing support to state and local governments across the US to ensure that HMPs meet statutory requirements; however, the scarcity of valid HMPs for Alaska Native communities nevertheless indicates that, despite resources and technical assistance, completing and updating these plans is unreasonably burdensome on both communities and the agency alike.

This challenge is due to several reasons, including: decision-making around hazard mitigation, and planning for disasters implicate multiple public and private governing authorities in Alaska—often with disparate resources and competing interests; compounding and extreme weather events and natural disturbances demand immediate responses that often delay planning activities; limited capacity and training in Alaska Native communities to develop and submit HMPs are often prohibitive.

**Policy Pathway: Scope opportunities for exemptions, waivers, guidance, or programmatic changes that will ease the planning burden on insular and remote communities affected by slow(er)-onset climate hazards.**

While some aspects of hazard mitigation planning may require statutory corrections, there are regulatory or programmatic changes that agencies can pursue to alleviate burdens and offer more culturally appropriate and climate-specific assistance to Alaska Native communities. For example, FEMA has approved several Multi-jurisdictional HMPs for Alaska and is working with the Office of Management and Budget (OMB) to conduct cost-benefit-analyses on behalf of communities—an assessment that was previously imposed on FEMA program applicants.

Discussions with Alaska Native communities may help to address equity concerns with respect to hazard mitigation planning and reveal other opportunities for streamlining programs. Flexibility is central to the most

effective programs: USDA exercises its broad authority to declare local “disasters” under its Emergency Watershed Program which can be inclusive of major climate events that may not be declared a “disaster” under the Stafford Act; NRCS is also revisiting a condition concerning Eminent Domain under its Watershed and Flood Prevention Program due to the inapplicability of this prerequisite to Alaska Native communities.

**ACTION AREA 4:** A defined “spectrum” of adaptation featuring protection in place, managed retreat, and voluntary community-led relocation due to sustained environmental threats.

Communities in Southwest Alaska are among the most susceptible to climate-forced displacement and migration due to permafrost thaw, erosion, and flooding, and therefore need to be prepared to protect in place, and manage retreat, where necessary, relocate to new sites. As the US has not yet adopted a national relocation governance framework, there is no standard procedure for making these preparations or clear funding mechanisms for supporting community decisions (GAO, 2020). As discussed below, the federal government has been taking steps to pilot relocation efforts, and various agencies are documenting the process and lessons learned that may ultimately inform a future policy or legal framework. In the immediate, however, other Alaska Native communities that are not included in these demonstration projects are grappling with key decisions around protection in place, managed retreat, and community-led relocation, including how these categories are defined, and the steps required for implementation.

**Policy Pathway: Enumerate the decision points for community-led adaptation planning; define the phases, processes, and procedures for government-supported voluntary relocation.**

As conversations between federal agencies, technical experts, and Alaska Native communities continue, various aspects of planning and the available resources start to become more apparent. Documenting these findings and assigning prioritization, estimated timelines and costs, associated legal and regulatory requirements, and affiliated decision-makers will better enable communities to confidently advance adaptation decisions. For example, the availability of land is often a determining factor for managed retreat vs. relocation: Preexisting rights to land at higher

elevation and with favorable soil composition can help expedite and simplify planning. Communities that need to pursue land exchange or obtain access to more stable land pursuant to the Alaska Native Claims Settlement Act (ANCSA) —may consider starting this time-consuming process as soon as possible, as it tends to involve several governing entities.

Federal agencies, too, and technical experts have the knowledge and experience to define what makes a potential relocation site more viable, e.g., permafrost thickness, proximity to flood plains or gravel sites. Meanwhile, affected communities place value on access to lands used for traditional hunting, fishing, and ways of life, among other features. The Community-Driven Relocation Subcommittee (co- led by FEMA and the U.S. Department of the Interior (DOI) that is implementing the pilot relocation efforts funded by the Biden Administration should take the lead in coordinating the collation of these key considerations and developing a “living” checklist of factors that can inform adaptation planning and specifically, community-led relocation.

**ACTION AREA 5:** Interagency coordination of immediate and longer-term community-led adaptation planning and voluntary relocation in Alaska.

As climate change has created more intense and frequently severe environmental conditions for communities, the US federal government has acknowledged the need for heightened inter-agency coordination. The Community-Driven Relocation Subcommittee under the White House National Climate Task Force represents a new mechanism to facilitate, guide, and collect information on government programs that are responsive to climate-forced displacement. Bringing together agency leaders from FEMA, the Department of Interior, the Bureau of Indian Affairs, the Denali Commission, and USDA, among others, this interagency working group is coordinating several strategic initiatives, pilot projects, and programs relevant to community-driven relocation—an adaptation response that several Alaska Native communities are currently pursuing or are likely to do so in the coming years. While this Subcommittee and the component agencies have demonstrated commitment to supporting community-led adaptation, the environmental, political, social, cultural, and economic challenges unique to Alaska Native villages create an added layer of complexity to relocation planning.

## Policy Pathway: Designate the Denali Commission as a coordinating entity for community-led adaptation and voluntary relocation in Alaska.

Recognizing the uniqueness of Alaska’s environmental challenges, paired with the multitude of federal agencies with a vested interest and regulatory authority to support community-led relocation, there is an appeal for tasking one agency—arguably the Denali Commission—as the lead coordinator for Alaska. The GAO has previously encouraged Congress to consider establishing a coordinating entity to align various federal agency actions relevant to adaptation in Alaska (GAO, 2022); as a federal agency with a mandate specific to Alaska, the Denali Commission is well-suited to serve as the coordination hub for Alaska adaptation. In effect, the Agency nearly occupies this role already—serving on the Subcommittee and participating in other federally-mandated coordination bodies with a focus on Alaska.

While the Denali Commission’s broad mandate and flexible funding structure could further be leveraged to support adaptation planning, the Commission does not currently have statutory authority to coordinate federal assistance from multiple agencies (42 USC § 3121). It also has limited funding and resources that would enable it to do so. Providing this authority would help to ensure that the Denali Commission has the requisite funding and resources to effectively serve in this capacity and alleviate the pressure on other agencies currently working to coordinate community-led relocation in Alaska without a permanent structure to support those efforts.\*

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*\*Woodwell Climate Research Center launched the Permafrost Pathways project in 2022 with funding through the TED Audacious Project—a collaborative funding initiative catalyzing big, bold solutions to the world’s most urgent challenges. Through partnerships with the Arctic Initiative at Harvard Kennedy School, the Alaska Institute for Justice, and the Alaska Native Science Commission, and in collaboration with Alaska Native Tribes, Permafrost Pathways seeks to harness the combined expertise of leading research institutions and on-the-ground organizations specializing in climate science, policy, and environmental justice to inform and develop adaptation and mitigation strategies to address permafrost thaw.*