

CLIMATE CHANGE: REALITIES OF RELOCATION FOR ALASKA NATIVE VILLAGES

Introduction

As temperatures across the Arctic rise at twice the global average, the impacts of climate change in Alaska are already being felt (IPCC 2007). Warming temperatures exacerbate problems of permafrost erosion, flooding, and melting ice barriers, making an already unpredictable environment even more volatile (GAO 2004). Alaska Natives are among the most impacted in this region, and, according to the Government Accountability Office (2004), flooding and erosion affects 86% of Alaska Native villages to some extent.

As a consequence of the changing living conditions, Alaska Native communities are being forced to relocate their homes in what is called the first wave of U.S. climate refugees (Sakakibara 2010), reflecting the war-like effects of climate change. However, relocating is a culturally damaging, expensive, and politically complex process that only a few villages have begun. While a small number of Alaska Native communities are considering relocation, the situation continues to worsen: in a 2004 report, the GAO reported that flooding and erosion imminently threatened four villages. By 2009, that number had risen to thirty-one villages.

Understanding Relocation

Extreme weather in Alaska is not a new phenomenon, and Alaska Natives are accustomed to adapting to its effects. Traditionally, many communities would adapt to the seasonal variability by migrating between hunting grounds throughout the year. However, beginning around the turn of the 20th century, Alaska Natives were forced to settle by the U.S. government, creating a dependence on the immediate area and subsequent vulnerability to events like erosion and flooding (MOVE 2010). Climate change creates more extreme seasonal events, increasing the risk associated with living in one place, including erosion of permafrost foundations on which many communities are built (GAO 2009, pg 7).

Alaska Native communities are at varying stages in considering relocation, and have very different perspectives of what relocation will mean. While some individuals may look forward to improved living conditions (New York Times 2007), others are reluctant to abandon the lands their ancestors lived on for thousands of years (Powering A Nation 2010). The primary efforts of Alaska Natives, however, are often focused on securing food and shelter for their families, making planning for long-term changes more challenging.

Considerations for Relocation

In 2009, the GAO reported that 12 of 31 communities identified as imminently threatened had decided to relocate. The GAO reported that these communities were at varying stages in the process, and slowed down by a number of challenges, including choosing a relocation site, paying for the process, and partnering with government organizations. Additionally, uprooting and moving to a new land represents breaking from uniquely adapted traditions that took thousands of years to develop (BBC News).

The situation is complicated further by finding a site that is both culturally acceptable and structurally sound. Alaska Native communities are located in some of the most remote places in the world, and are often only accessible by airplane (GAO 2009). As a result, the cost of relocating several hundred people climbs into the hundreds of millions. The U.S. Army Corps of



Rock revetment project, Kivalina, Alaska. Source: Millie Hawley, Manager Kivalina Environmental Program

Engineers estimated the cost of relocating Kivalina at \$95-125 million, Shishmaref at \$100-200 million, and Newtok at \$80-130 million. These costs are well beyond what is realistic for subsistence communities, so most turn to government agencies for funding support. Unfortunately, there are a myriad of political, cultural and economic factors that complicate obtaining government funding for relocation. For example, the USACE has to justify its projects by performing a cost evaluation that shows that expected benefits outweigh the cost (GAO 2004). However, estimating the cost of preserving some of the oldest cultures in the world is very complex.

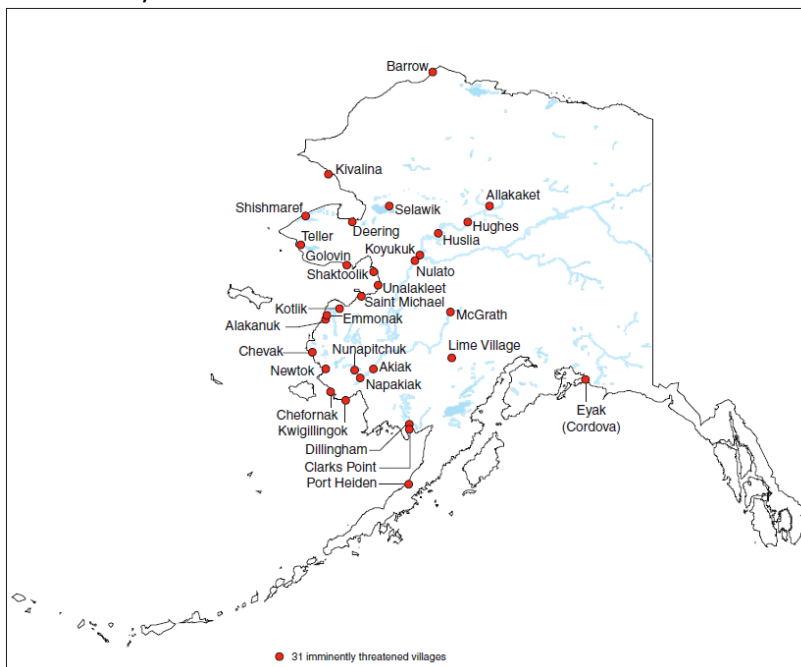
Another complication arises from Alaska's political jurisdictions: *"Because of Alaska's unique structure of organized boroughs and an unorganized borough, unincorporated Native villages in the unorganized borough do not qualify for federal housing funds from HUD's (U.S. Department of Housing and Urban Development) Community Development Block Grant program. The disqualification of the villages in this borough is not because they lack the need for these funds, but because there is no local government that is a political subdivision of the state to receive the funds"* (GAO 2009). Even funding specifically aimed to address these types of situations is sometimes unavailable to communities: *"The Federal Emergency Management Agency has several disaster preparedness and recovery programs, but villages often fail to qualify for them, generally because they may lack approved disaster mitigation plans or have not been declared federal disaster area"* (GAO 2009).

Agency Support

Owing to the economic and technical dynamics of relocation, communities are reaching out to government organizations for assistance. The State of Alaska is addressing the need for such assistance and in 2007 created the Climate Change Sub-Cabinet, which has participated in the preparation and implementation of a climate change strategy for Alaska. Information made available on the State of Alaska climate change website (<http://www.climatechange.alaska.gov/>) addresses adaptation, mitigation, immediate actions and research needs. At the Federal level, the U.S. Army Corps of Engineers has been working closely with communities to help develop strategies and provide technical support for relocation. However, the lack of a lead federal entity to coordinate and help prioritize assistance to relocating villages creates many problems with miscommunication and undirected efforts (GAO 2009).

Alaska Native Villages Engaged in Relocation Efforts

A 2004 report from the Government Accountability Office (GAO) identified 31 Alaska Native Villages as "imminently threatened."



Source: 2004 GAO report, pg. 18

In 2009, the GAO listed 12 communities that had begun exploring relocation options: Kivalina, Newtok, Shishmaref, Shaktoolik, Allakaket, Golovin, Hughes, Huslia, Koyukuk, Nulato, Teller, and Unalakleet (GAO 2009). Following are highlights from efforts by three of these villages to explore relocation, as well as links to more in-depth resources and case studies about these communities.

Kivalina

Located on an island in the northwest corner of Alaska, the village of Kivalina is quickly losing the ice that governs life for its 400 residents. The ice provides a natural barrier against harsh sea storms, serves as the community's hunting ground for seals, and gives the village its drinking water. The Army Corps of Engineers estimated relocation costs to be \$95 - \$125 million (ACE 2006). Kivalina experienced further struggles in identifying a relocation site. *"The Community has identified a site it wishes to move to, but that the USACE does not believe is an adequate site, e.g. it is underlain with permafrost which would require many feet of fill material to provide a good foundation for buildings"* (IAW 2009).

According to Mille Hawley, President of the Kivalina IRA Council, the community has shifted its focus from relocation to evacuation. The community decided on the change because evacuation is something that state and federal agencies can support more easily than relocation, and a strong evacuation plan will keep people safe. To accomplish this, the village of Kivalina is currently utilizing Bureau of Indian Affairs funds for roads to develop a plan to build a bridge from the island to the mainland. The village hopes to access additional funding and foster partnerships with entities including the Denali Commission, the Army Corps of Engineers and the Coast Guard to develop a comprehensive evacuation plan. Hawley suggested that focusing on individual activities, such as development of an evacuation plan, may be more likely to result in incremental changes that will help keep the people of Kivalina safe.¹ More information on relocation efforts in Kivalina can be found at <http://www.kivalinacity.com/> and <http://www.cakex.org/case-studies/2773>.

Shishmaref

Inhabited for over 4,000 years, the town of Shishmaref is located on a barrier island in the Chukchi Sea off the western coast of Alaska. Shishmaref depends on the ice surrounding the island for protection, food, and water. In recent decades, Shishmaref has lost 40% of the ice that protects it from storm surges reaching the island, and already more than 10 homes have had to be evacuated (Spanner Films 2001). Shishmaref began exploring relocation in 2001, and in 2002 formed the Shishmaref Erosion and Relocation Coalition comprised of the governing members of the city, Indian Reorganization Council, and the Shishmaref Native Corporation Board of Directors. The Army Corps of Engineers estimated relocation costs to be \$100 - \$200 million (ACE 2006). More information on Shishmaref can be found at: <http://www.shishmarefrelocation.com> and <http://www.cakex.org/case-studies/2770>.

Newtok

Located on the western coast of Alaska, Newtok is home to 320 Alaska Natives. The sea and the river that cuts through Newtok are eroding the permafrost on which the town is built. A 1983 assessment of erosion problems found that within 25 to 30 years, the erosion would begin to endanger the community. Since then, Newtok has worked on relocation efforts, and in 1994 started the relocation planning process. By 1996, the town had selected Mertaryik, which in Yup'ik means "getting water from the spring," as the relocation site. The Army Corps of Engineers estimated relocation costs to be \$80 to \$130 million (ACE 2006). In 2006, the Newtok community, government agencies, and non-governmental organizations formed the Newtok Planning Group, which was described in the 2009 IAWG Report as "a model for local community, state and federal partnerships to address complex issues." More information on Newtok relocation efforts can be found at http://www.commerce.state.ak.us/dca/planning/npg/Newtok_Planning_Group.htm or <http://www.cakex.org/case-studies/1588>.

¹ Personal interview with Millie Hawley, President Kivalina IRA Council, March 1, 2011.

Research Efforts on Relocation in Alaska

Moved by the State: Perspectives on Relocation and Resettlement in the Circumpolar North (MOVE) is a project of the European Science Foundation and funded by the Canadian Social Sciences and Humanities Research Council, the US National Science Foundation, the Academy of Finland, and the Danish Research Agency. It is a research initiative comprised of five participating projects based in Canada (University of Alberta), Finland (University of Lapland), Denmark (University of Greenland), and the United States (University of Alaska Fairbanks & University of Maryland). Over a four-year project lifespan, field research involving teams of researchers and local collaborators will be conducted in Alaska, northern Canada, Greenland and regions of the Russian far North (Chukotka, Magadan, Yamal). MOVE has conducted research to date in Kivalina in partnership with faculty at the University of Alaska in Fairbanks, and is currently performing fieldwork in Shishmaref and Koyukuk (MOVE 2010).

References and Resources

The references below include those cited in the profile and others with further information on issues related to relocation among Alaska Native communities.

Publications

Title	Publisher	Date	Link
Relocating the Village of Kivalina due to Coastal Erosion	Cakex	December 2010	http://www.cakex.org/case-studies/2773
Relocating the Native Village of Shishmaref, AK Due to Coastal Erosion	Cakex	December 2010	http://www.cakex.org/case-studies/2770
Relocating the Village of Newtok, Alaska due to Coastal Erosion	Cakex	December 2010	http://www.cakex.org/case-studies/1588
Moving an Iñupiaq Village: Negotiating Relocation and Socio-environmental Changes in Kivalina, Arctic Alaska	Moved by the State (MOVE)	June 2010	http://www.alaska.edu/move/projects/moving-an-inupiaq-village/
Histories and Futures of Relocations in Alaska and Rural Chukotka	Moved by the State (MOVE)	June 2010	http://www.alaska.edu/move/ac/
AK Native Villages: Limited Progress Has Been Made on Relocating Villages Threatened by Flooding and Erosion	Government Accountability Office	June 2009	http://www.gao.gov/products/GAO-09-551
Alaska Baseline Erosion Assessment	U.S. Army Corps of Engineers	March 2009	http://www.climatechange.alaska.gov/docs/ia_w_USACE_erosion_rpt.pdf
Recommendations to the Governor's Subcabinet on Climate Change	Alaska Immediate Action Workgroup	March 2009	http://www.climatechange.alaska.gov/docs/ia_w_finalrpt_12mar09.pdf
Sakakibara, Chie. "Our Home is Drowning": Inupiat Storytelling and Climate Change in Point Hope, Alaska	Geographical Review	October 2008	http://onlinelibrary.wiley.com/doi/10.1111/j.1931-0846.2008.tb00312.x/abstract
Recommendations to the Governor's Subcabinet on Climate Change	Alaska Immediate Action Workgroup	April 2008	http://www.climatechange.alaska.gov/docs/ia_w_rpt_17apr08.pdf
Contribution of Working Group I to the Fourth Assessment Report of the IPCC, 2007	Cambridge University Press	2007	http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg_1_report_the_physical_science_basis.htm
Kivalina Relocation Master Plan	U.S. Army Corps of Engineers	June 2006	http://www.poa.usace.army.mil/en/cw/Kivalina/Kivalina.html
Alaska Village Erosion Technical Assistance Program	U.S. Army Corps of Engineers	April 2006	http://www4.nau.edu/tribalclimatechange/resources/docs/res_USArmyCorpEngAKVillErosionTechAssistProg.pdf
Villages Affected by Flooding and Erosion Have Difficulty Qualifying for Federal Assistance	Government Accountability Office	June 2004	http://www.gao.gov/products/GAO-04-895T

State and Community Websites

Title	Link
Alaska Climate Change Strategy	http://www.climatechange.alaska.gov/
Kivalina City	http://www.kivalinacity.com/
Shishmaref Erosion and Relocation Coalition	http://www.shishmarefrelocation.com/index.html
Newtok Planning Group	http://www.commerce.state.ak.us/dca/planning/npg/Newtok_Planning_Group.htm

Video resources

Title	Publisher	Date	Link
Moving to Higher Grounds	Powering A Nation	2010	http://unc.news21.com/index.php/about-the-town.html
Courts as Battlefields in Climate Fights	New York Times	January 2010	http://www.nytimes.com/2010/01/27/business/energy-environment/27lawsuits.html
Global Warming Threatens Shishmaref	Spanner Films	February 2009	http://www.youtube.com/watch?v=Uh_HOQHkbwc&feature=related
BBC News Clip	BBC News	August 2009	http://www.youtube.com/watch?v=dV7y1N1oteo&NR=1
Climate Change Migrants - USA	Journeyman Pictures	August 2007	http://www.youtube.com/watch?v=W_8Ar-5UH8s
Polarized	Disarming Films LLC	September 2007	http://www.youtube.com/watch?v=4dWli09U-oY

News Articles

Title	Publisher	Date	Link
Eroding Alaska Village Appeals Lawsuit's Dismissal	Indian Country Today	February 2010	http://www.indiancountrytoday.com/national/hawaiialaska/83646027.html
Alaska's Climate Refugees Build New Village	Reuters	February 2010	http://www.reuters.com/article/idUSN2221852020100223?type=marketsNews
Rising Sea Levels Threaten Kivalina	TITV Weekly	October 2008	http://www.youtube.com/watch?v=2W_OC9-4T_k
Coastal Erosion and the Threat to Kivalina, Alaska	Live Better Magazine	March 2008	http://livebettermagazine.com/eng/magazine/article_detail.lasso?id=87
Flooded Village Files Suit, Citing Corporate Link to Climate	New York Times	February 2008	http://www.nytimes.com/2008/02/27/us/27alaska.html?_r=1&oref=slogin
Victim of Climate Change, a Town Seeks a Lifeline	New York Times	May 2007	http://www.nytimes.com/2007/05/27/us/27newtok.html?ex=1337918400&en=7e93b10cdd7c61d0&ei=5090
Sea engulfing Alaskan village	British Broadcasting Company	July 2004	http://news.bbc.co.uk/2/hi/europe/3940399.stm

Tribal Climate Change Profile Project:

The University of Oregon and the USDA Forest Service Pacific Northwest Research Station are developing tribal climate change project profiles as a pathway to increasing knowledge among tribal and non-tribal organizations interested in learning about climate change mitigation and adaptation efforts. Each profile is intended to illustrate innovative approaches to addressing climate change challenges and will describe the successes and lessons learned associated with planning and implementation. For more information about the initiative, visit: <http://tribalclimate.uoregon.edu/>.

Project contacts:

- Kathy Lynn, University of Oregon Environmental Studies Program, kathy@uoregon.edu
- Ellen Donoghue, USDA Forest Service Pacific Northwest Research Station, edonoghue@fs.fed.us