

Alaska Subsistence Lifestyles Face Changing Climate

Native subsistence hunters throughout Alaska report dramatic changes in the climate, changes that are making it more difficult to maintain their subsistence and rural-based lifestyle.

Amy Craver

For Alaska Native people, hunting and gathering, sharing of food, and the spiritual beliefs surrounding these subsistence activities connect people to their environment and to each other. They are a source of pride and well-being.

Alaska Natives have always expected fluctuations from year-to-year in weather, hunting conditions, ice patterns, and animal populations, but since the 1970s they have noticed many indications of major climate changes. According to a recent report of the Arctic Monitoring and Assessment Programme (AMAP), climate change in the Arctic is more pronounced than in other areas of the world and the effects of this change on Alaska Native subsistence culture are of great concern.

Many villages, such as Akhiok (typically a marine climate) located on the southern tip of Kodiak, face dangerous sanitation issues because of short supplies of fresh water due to lack of rain and little snow pack.

This summer Akhiok

residents were forced to travel greater distances for drinking water. A reservoir that typically stores more than four weeks' worth of water was reduced to less than half a day's supply due to lack of rain. According to health officials, people in Akhiok should not use the water because remaining water supplies are considered contaminated. However, due to the lack of adequate drinking water, residents have no choice but to drink the unsafe water or else rely on planes and boats for water.

Patterns of animal migration are also changing, sometimes endangering communities. For example, changes in the weather, rising temperatures, and conditions of ice pack are contributing to a dramatic increase in polar bears occupying the Beaufort Sea ice near the Inupiaq Eskimo community of Barrow.

Changing migration patterns also jeopardize livelihoods. For example, many Eskimo reindeer herders in northwest Alaska are losing their herds to the rapidly growing herds of migrating wild Western Arctic caribou. These herders face not only economic but also cultural losses tied to their reindeer herding lifestyle. As of spring 2001, caribou have driven eight of the 15 Seward Peninsula's reindeer herders out of business. Many once prosperous Eskimo herders now find themselves struggling to eke out a living. A number of herders are beginning to accept and adapt to the harsh fact that the caribou will eventually take over the remaining reindeer herds. The loss of reindeer herds means that the herders will be forced to seek other livelihoods, such as guiding tourists on hunting, fishing, and snowmobile trips.

In response to the concerns expressed by Alaska Native subsistence users about their environment, the Alaska Native Science Commission (ANSC) initiated a statewide project documenting Alaska Native observations of environmental change. Some of these observations include topics such as climate change, subsistence use, and traditional knowledge. This community-based project documented traditional knowledge about environmental changes within a social and cultural context based on information shared by recognized community experts. The ANSC organized seven regional workshops across Alaska where Alaska Native elders and hunters could share their observations about environmental changes. One of the outcomes of the project is a database that documents Native people's observations of environmental changes in each community (www.nativeknowledge.org).

The following quotations from the database hint at the range of effects that climate change has already had on the subsistence lifestyle.

Shore erosion and wind patterns

In many coastal communities, rising sea levels are aggravating erosion and causing flooding in



Alaska Native woman drying whitefish.

low-lying areas along the Arctic. According to Alaska Natives living in coastal communities, the effect of waves, wind, and ice have caused serious erosion problems to 16 Alaska coastal villages. Millions of dollars have already been spent on erosion control, which has not been effective in battling the elements.

In Shishmaref we've had to move nine houses and six more are scheduled to be moved. The storms undercut right underneath the houses. —Delano Barr, Shishmaref

The village of Shishmaref sits on a skinny barrier island vulnerable to fall storms. Many of the homes in Shishmaref were built 20 years ago when the ocean bluffs were about 50 feet away from the town site. Now some of the homes are within 3 to 5 feet of the bank because of erosion from storm damage compounded by rising sea levels. During a storm last year, a number of families lost their winter supply of walrus meat, fish, seal, and seal oil, which had been stored under the sand on top of the permafrost. Many other villagers are concerned that their communities may be forced to evacuate, which will severely alter their subsistence lifestyle.

Since the 1970s, subsistence hunters have also noticed that ocean currents and wind patterns are changing.

There have been a lot of changes in the sea ice currents and the weather. Solid ice has disappeared, and there are no longer huge icebergs during fall and winter. The ice now comes later and goes out earlier, and it is getting thinner. The current is stronger, and it is windier on the island. We had a bad hunting season with lots of high winds. Our elders tell us that our earth is getting old and needs to be replaced by a new one. —Jerry Wongittilin, Sr., Savoonga, St. Lawrence Island

Ice conditions

Alaska Native subsistence hunters depend on the sea for resources and food. When sea-ice conditions are unpredictable and late in forming, certain forms of hunting are delayed or may not take place. Changes in the sea ice may also alter the migration routes of marine mammals, which directly affects communities.

Our river—we've noticed that it doesn't freeze across in the last 10 years. The temperatures are warmer. The lakes are drying up. The water is low in June, affecting the fish run—over the last two years. Sockeyes are much smaller, and so are hatchery fish. —Gloria Stickwan, Copper Center

Last spring we only got six walrus because of the weather and ice moving out too quick. A long time ago it used to be real nice for weeks and even sometimes for months. Now we only have a day or two of good weather, and this impacts our hunting.

The hunters that I talked with about the ice conditions say it is getting a lot thinner. It is going out too quick. —Herman Toolie, Savoonga, St. Lawrence Island

Seasonal characteristics

Changes in annual precipitation make it more difficult to dry fish and caribou meat for winter. Wetter weather also reduces the quality and quantity of other foods, such as berries and roots.

The seasons are getting very fast and are getting all mixed up. The last few years my grandmother was living she said that there was not enough time to put things away like there used to be. When we are done with the willow leaves then comes the sourdocks. But these seasons are in too much of a hurry now. Now before we're done, something else is ready. It is not natural for these things to be growing at the time they are. Also, I've noticed that there are few plants that grow where they used to grow. We used to pick these plants by the lakes, and we used to combine them with salmonberries. I don't notice too much of these plants anymore.

—Hannah Miller, Nome

Different animals have started coming in. Fish we haven't seen that live in other areas are now being seen in our area. —Charlie Okakok, Barrow

When I talked to the elders at home, they talked about the migration patterns of the walrus and caribou changing. The caribou used to come 15-20 miles inland, and now they are migrating toward our area. It seems that in my lifetime the migration of the walrus and beluga are really changing too. They are going to new places to feed. —William Takak, Shaktoolik

Changes as broad as those reported by Alaska Native people at the Alaska Native Science Commission workshops indicate that climate change is already profoundly affecting the lives and culture of people who depend on traditional ways of acquiring and storing their food supplies. And they also threaten the passing down of traditional knowledge tied to subsistence activities. The environmental observations of Alaska Native people today not only mirror scientists' predictions but also provide firsthand evidence that the effects of major climate change are being felt now. These effects on subsistence ways of life may be the greatest challenge to the continued existence of Alaska Native cultures. 🐾



Inuk seal hunter with a seal.

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