

## **Climate change has begun to reshape the lives of Alaska's indigenous people**

By Oliver Milman, The Guardian, adapted by Newsela staff on 12.21.16

For the people of the Arctic, the effects of climate change are a part of everyday life. Higher temperatures there have been reshaping their environment and their lives. Now, even their language is being affected.

The Yupik, a native people of western Alaska, have dozens of words for different kinds of sea ice, ice sheets formed out of frozen ocean water. This is not surprising given the central role that the ice plays in their lives. Researchers have noted, however, that some of these words are falling out of use. One word that is heard less often these days is “tagneghneq,” which means thick, dark, weathered ice. The reason is simple: as temperatures have risen, tagneghneq has disappeared.

After thousands of years of use, words are vanishing as quickly as the ice they describe. It is one more way that climate change has altered life in the Arctic.

### **Warming Air, Seas And Changing Winds**

As the planet warms, native inhabitants throughout the Arctic are in danger. There are 31 Alaskan towns and cities at immediate risk from the melting ice. As the area has gotten warmer and ice has turned to water, large parts of the coast have been worn away by erosion. Many inhabitants will have to relocate or somehow adapt. “In December, we normally have waters covered in ice but right now we have open water out there,” said Vera Metcalf, director of the Eskimo Walrus Commission. Her organization represents 19 native communities stretching along Alaska’s western coast. “We are so dependent upon sea ice conditions. It’s our life, our culture,” she said. The amount of Arctic sea ice declined to a record low in November, worn down by the warming air, seas and unhelpful wind patterns. The region’s 2016 temperature has been 3.5 degrees Celsius (just over 6 degrees Fahrenheit) warmer than a century ago. In some locations, it has been 20 degrees Celsius (36 degrees Fahrenheit) warmer than normal.

This has been a particularly bad year for communities that rely on Arctic sea ice. “Almost every year now we look at the record of sea ice and say ‘wow,’ but this year it was like ‘three times wow,’” said Tad Pfeffer, a geophysicist at the University of Colorado. “This year has been a big exaggeration on the trends we’ve already been seeing.”

### **Walrus Depend On Sea Ice**

In Arctic areas, getting food from other parts of the world can be expensive and difficult. As a result, inhabitants are especially affected by changes in their local environment. Less sea ice makes life harder for hunters because the walrus they hunt need the ice to survive. If you can’t butcher a 1,000-pound walrus because there is no sea ice to support both of you, then you might be left hungry.

“The window of opportunity for hunting continues to shrink,” Metcalf said. “The communities are worried about this because food insecurity is something we are now having to tackle every single day.”

### **People Depend On Walruses**

Metcalf grew up on St. Lawrence Island, a far-flung piece of the United States that sits just 36 miles from Russia in the Bering Sea. In 2013, the island’s two main communities managed to catch just one-third of the walruses they normally do. Last year, Gambell, the largest settlement, snared just 36. That was far fewer than the 600 it could expect just a few years ago.

Sea ice is now farther out from land than it once was, and it is becoming treacherously thin for hunters to travel across. Walruses, which require sea ice for resting and giving birth, often have to resort to heaving themselves onto crowded strips of land. These grand tusked beasts can trample each other to death in such conditions.

“It’s not like the walrus populations are changing, it’s that the climate is changing the conditions,” Metcalf said.

“We are trying to plan better but we can’t go out every day and hunt. We can try to adapt and hunt caribou or moose but it’s not easy. It comes at a cost to us.”

### **Early Destabilizing Of The Environment**

The Arctic is warming at twice the rate of the rest of the world. There are “early signs” that this temperature increase is speeding up, according to Jeremy Mathis, director of the Arctic program at the National Oceanic and Atmospheric Administration.

“For people who live in the Arctic, there is no debate over whether their environment is changing,” he said. “We are seeing a destabilization of the environment in the Arctic. The ice is melting earlier and earlier and coming back later and later in the year.” He added that these changes threaten Arctic communities’ way of life and survival. Frost locked deep in the soil is melting, causing buildings to sink. Communities are seeing their coastlines wear away and are increasingly exposed to lashing storms without the protective barrier of sea ice.

Several Alaskan towns and villages are wrestling over whether to fight these changes or retreat to relative safety. Two coastal villages, Shishmaref and Kivalina, have voted to relocate. A third, Newtok, has already begun moving.

“These communities need to be moved as soon as possible before a large storm hits,” said Victoria Herrmann, managing director of the Arctic Institute. There is not much support for them, however. The United States has no national sea-level-rise plan and no system to deal with displaced people. Even as the country’s first climate change refugees emerge from within its own borders, the issue is very much on the sidelines. Meanwhile, the affected communities are being faced with incredibly difficult decisions. “Having to move elsewhere is unimaginable,” Metcalf said. “As an elder told me the other day, we are not going anywhere. We’ve been here for centuries. But we may have to consider it, for the sake of our children and grandchildren.”