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Barrow, Alaska: Ground Zero for Climate Change

Scientists converge on the northernmost city in the United States to study global warming's dramatic consequences



Scientists have been descending on the Alaska city of Barrow since 1973. This monument made of whale bones is to lost sailors. (Associated Press)

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Smithsonian Magazine | [Subscribe](#)
March 2010

No roads lead to Barrow, Alaska. To reach America's northernmost city (pop. 4,500), you must fly or, sea ice permitting, take a ship. Barrow's residents use cars or four-wheel-drive ATVs in town and have been known to hunt caribou on snowmobiles, even in summer. The treads leave dark trails in the tundra, the blanket of spongy brown and green vegetation that stretches south for hundreds of miles. I was coming in on a U.S. Coast Guard C-130 transport plane. Looking down through a small window I saw a triangular-shaped town hugging the edge of the continent at the junction of the Chukchi and Beaufort seas. It was August, and the ocean looked as black as anthracite.

The city's small wooden homes were built on pilings to keep them from melting the permafrost, which would cause them to sink. I saw jumbles of vehicles, fish-drying racks and small boats in front yards. The roads looked muddy. I saw a large supermarket and a new hospital going up near some office buildings. To the north, along a coast road, I spotted Quonset huts marking my destination—a repurposed World War II-era U.S. Navy base. Concerns about climate change have turned a drizzle of visiting scientists into a flood; I've visited Barrow when scientists filled every bed on the former base, bunked ten to a room in a dilapidated house in town and slept in cots laid out in rows in the community center.

I had come to Barrow to learn about ice and climate change from Eskimo elders and hunters and from scientists. For two weeks I'd been visiting northern Alaska coastal villages as a guest of the Coast Guard, and what I'd heard was disturbing. Each year the sea ice was getting thinner and arriving later. Coastal storms have become so dangerous that some villages—lacking the shore ice that used to protect them—will have to be moved miles inland. In one village I watched the Army Corps of Engineers build rock walls to shield against fierce waves. Fish species from warmer waters were showing up in fishing nets. Insects that no one recalled seeing before—such as spruce bark beetles, which kill trees—were falling from the sky. There was a proliferation of flies that make caribou sick.

Inland, elders told me, tundra lakes were disappearing, and with them drinking water and nesting grounds for millions of migrating birds. River banks—without enough ice to shore them up—were eroding, filling the waterways with silt. When hunters went out

after moose, their boats increasingly ran aground in flats.

“It’s harder to find food,” I heard again and again.

After the C-130 landed, Donald “Nok” Acker of the Barrow Arctic Science Consortium (BASC), a nonprofit research support organization founded by Inupiat Eskimos, picked me up in his mud-spattered Ford truck. I stowed my gear in a dormitory for scientists, and Acker drove me to see Edward Itta, the mayor of North Slope Borough, the largest county (the size of Wyoming) in the United States. Itta is an Inupiat whaling captain as well as a politician who deals with members of Congress, White House officials and military authorities who travel to Barrow for much the same reason I did. His office is in a modern, airy two-story building with new computers and a natural gas heating system, paid for, he told me, by tax revenues from oil fields at Prudhoe Bay. Oil companies there contribute some \$250 million a year to the North Slope Borough.

“Barrow is ground zero for climate-change science,” Itta said. “We worry that climate change is shrinking the sea ice and we don’t know how that will affect the animals that depend on it. At this time there is no effective plan if a catastrophe such as a ship collision or oil spill occurs. The Coast Guard hasn’t decided what its presence will be in the Arctic. Someone needs to monitor new traffic as the ice recedes and when tourist ships come through the Northwest Passage, which is already happening.”

The Arctic is warming twice as fast as the rest of the planet, according to a 2004 Arctic Climate Impact Assessment report, the most recent available. Summer sea ice in the region shrank by nearly 40 percent between 1978 and 2007. Winter temperatures have been several degrees Fahrenheit warmer than they were a few decades ago. Trees have spread into the tundra. In 2008, a wildfire broke out in an area north of the Brooks Range, where the local dialect had no word for forest fire.

Even officials who question the source of the warming are concerned. “I’m agnostic as to the causes,” Coast Guard Commandant Thad Allen told me. “All I know is there is water where there was once ice.” And where there is water, “we are responsible for it.”

One major consequence is that a new Arctic shipping route around the top of Alaska is expected to open in the next few years, or decades, cutting thousands of miles off trips between Asia and Europe and Asia and the Eastern United States. The fabled Northwest Passage, from Baffin Bay in Eastern Canada to the Pacific Ocean, was frozen for centuries, and attempts to navigate it cost hundreds of European explorers their lives.

Page 1 of 6