

# Feeling the Heat: Global Warming in Alaska

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Global warming is wreaking havoc in Alaska. Over the past 40 years, annual temperatures have increased 4-5°F, and winter temperatures have warmed 8-10°F. For many reasons, Alaska Natives are feeling the heat most dramatically and adversely.

Scientists agree that Alaska has warmed more than any other place on earth—over four times the global average. This significant, on-the-ground temperature increases are consistent with previous climactic predictions. For years scientists have determined that global warming would initially be most evident at high latitudes and then become increasingly substantial in the mid-latitudes. In essence, Alaska is the tip of the melting iceberg—or the canary in the coal mine with an impending heat stroke.

Alaska Natives are the peoples who rely most on Alaska's ice, seas, marine mammals, and traditional lifestyles and are therefore experiencing the adverse impacts from global warming most acutely. The retreat of the polar ice cap, due to global warming, threatens a vast, circumpolar ecosystem and its resident polar bears, walrus, seals, and whales, while leaving Northern Alaska communities increasingly vulnerable to unprecedented storm-wave erosion. Roads, buildings, and other structures are collapsing as ice-rich permafrost soils liquefy. These dramatic occurrences, and others in Alaska, portend what's in store for the rest of the United States—and the planet—if we do not act now to reduce greenhouse gasses.

The evidence of global warming in the Last Frontier is widespread. The Yukon River's temperature has recently increased over 10 degrees, resulting in diseased salmon, which negatively affects Alaska Natives throughout the drainage. Spruce throughout Alaska and other trees are dying at historically high rates due to global warming induced insect infestations. Glaciers are melting at unprecedented rates.

Virtually every aspect of traditional Alaska Native life is impacted. As noted in the recently released Arctic Climate Impact Assessment, indigenous peoples are reporting that sea ice is declining, and its quality and timing are changing, with important negative repercussions for marine hunters. Others are reporting that berries are reduced in quality and quantity. There is widespread concern about caribou habitat diminishing as larger vegetation moves northward. Because of these and other dramatic changes, traditional knowledge is jeopardized, as are cultural structures and nutritional needs of Alaska's indigenous peoples.

Perhaps most visually, several Native communities are starting literally to fall into the sea; and this is just the beginning. The Alaska Native village of Shishmaref, in particular, has already lost many buildings into the ocean due to melting permafrost and increased storms from global warming. The cost to move Shishmaref, alone, with its 600 residents has recently been estimated to be over \$150 million.

Alaska helps demonstrate that the costs of not dealing with global warming exceed the costs of reducing greenhouse gas emissions. Clearly, we need to move quickly to address this problem. There is an international scientific consensus that most of the warming observed over the last 50 years is attributable to human activities. It is clear from ice cores and other evidence of climate conditions in the past that rising atmospheric carbon dioxide levels are correlated with rising global temperatures. Primarily because of the burning of oil, gas, and coal by humans, carbon dioxide and other heat-trapping gases in the atmosphere have increased by 35% since the start of the industrial revolution. We need to reduce human greenhouse gas emissions now.

The threat to the world, the nation, and to Alaska from global warming is staggering. Our nation must do something to address global warming by capping carbon emissions, and Alaska has a critical role to play in this effort as the harbinger of things to come if global warming is not addressed. Most Americans, including most decision-makers, do not understand the astounding scope, ecological significance, and economic and social costs that are being experienced, especially by First Nation peoples, on American soil, in Alaska, right now due to global warming.

This is not only an ecological issue, it is also a human rights issue of tremendous proportions.