

FACT SHEET 4:

How will climate changes affect indigenous communities?

The Arctic is home to numerous Indigenous Peoples whose cultures and activities are shaped by the Arctic environment. They have interacted with their environment over generations through careful observations and skillful adjustments in traditional food-harvesting activities and lifestyles. Through ways of life closely linked to their surroundings, these peoples have developed uniquely insightful ways of observing, interpreting, and responding to the impacts of environmental changes.

Indigenous observations and perspectives are therefore of special value in understanding the processes and impacts of arctic climate change. There is a rich body of knowledge based on their careful observations and interactions with their environment. Holders of this knowledge use it to make decisions and set priorities. Across the Arctic, Indigenous Peoples are already reporting the effects of climate change, and ACIA has attempted to incorporate knowledge and insights from Indigenous Peoples with data from scientific research, bringing together these complementary perspectives on arctic climate change.

Compiling indigenous knowledge from across the Arctic, a number of common themes clearly emerge, though there are regional and local variations in these observations:

- The weather seems unstable and less predictable by traditional methods.
- Snow quality and characteristics are changing.
- There is more rain in winter.
- Seasonal weather patterns are changing.
- Water levels in many lakes are dropping.
- Species not seen before are now being seen in the Arctic.
- Sea ice is declining, and its quality and timing are changing.
- Storm surges are causing increased erosion in coastal areas.
- The Sun feels "stronger, stinging, sharp." Sunburns and strange skin rashes, never experienced before, are becoming common.



These changes are strongly affecting people in many communities – in some cases, threatening their cultural survival. Distressingly, climate change is occurring faster than users can adapt.

Reports of climate changes from Indigenous Peoples:

- In Canada's Nunavut Territory, Inuit hunters have noticed the thinning of sea ice, a reduction in ringed seals in some areas, and the appearance of insects and birds not usually found in their region. Inuvialuit in the western Canadian Arctic are observing an increase in thunderstorms and lightning, previously a very rare occurrence in the region.
- Athabaskan people in Alaska and Canada have witnessed dramatic changes in weather, vegetation, and animal distribution patterns over the last half-century.
- Saami reindeer herders in Norway observe that prevailing winds relied on for navigation have shifted and become more variable, forcing changes in traditional travel routes. Indigenous Peoples who are accustomed to a wide range of natural climate variations are now noticing changes that are unique in the long experience of their peoples.

Sea ice retreat threatens ice-dwelling species and cultures that rely on them

The ringed seal is the single most important food source for the Inuit, representing the majority of the food supply in all seasons. No other species is present on the land or in the waters of Nunavut in the quantities needed to sustain the dietary requirements of the Inuit. In recent decades, local people have observed that ringed seal pup reproduction has suffered as increased temperatures have led to reduction and destabilization of the sea ice. These ice changes have also affected the harvest of polar bear, another important food source, because ringed seals are central to the polar bear's diet and the bears are also directly affected by the observed changes in snow and ice, because ringed seals are central to the polar bear's diet and the bears are also directly affected by the observed changes in snow and ice. Hunting, catching, and sharing

these foods is the essence of Inuit culture. Thus a decline in the number of ringed seals and polar bears threatens not only the dietary requirements of the Inuit, but their very way of life. Because ringed seals and polar bears are very unlikely to survive in the absence of summer sea ice, the impact on indigenous communities that depend on these species is likely to be enormous.

Strangers in their own land

Indigenous Peoples' access to their food resources is often related to travel access and safety. For example, changes in the rate of spring melt and increased variability associated with spring weather conditions have affected access to hunting and fishing camps. As sea ice decreases, and its quality and timing are changing, marine hunters are affected. As Indigenous Peoples perceive it, the Arctic is becoming an environment at risk in the sense that sea ice is less stable, unusual weather patterns are occurring, vegetation cover is changing, and particular animals are no longer found in traditional hunting areas during specific seasons. Local landscapes, seascapes, and icescapes are becoming unfamiliar, making people feel like strangers in their own land.

Reindeer Herders Affected

Observed and projected increases in temperature and precipitation and changes in the timing of the seasons affect Saami reindeer herding in numerous ways. Increases in periods of winter melting and in the frequency of rain on snow result in the formation of ice-crust layers that make forage less accessible.



Increasing autumn temperatures might lead to a later start of the period with snow cover. Rising temperatures and precipitation could increase the frequency of snow falling on unfrozen ground. An increased number, density, and distribution of birch trees in grazing areas has already begun to decrease the availability of forage plants for reindeer in winter. Shifts of forest vegetation into tundra areas are likely to further reduce traditional pasture areas.

A variety of factors have constrained the ability of Saami reindeer herders to respond to and cope with climate warming and other changes. The characteristic seasonal pattern of moving herds between winter and summer pastures reflects the herders' knowledge of seasonal changes in the availability of key resources, such as forage and water. The success of the herders is contingent upon the freedom to move.