

Climate Change and Indigenous Communities

The warming of the Arctic is of grave concern to the Indigenous communities that live there and to the scientific community at large. The Arctic has been warming at a rate roughly four times faster than the rest of the globe, placing extreme strain on the ecosystem of the cryo-sphere, the ice-dependent communities and ecosystems of the Arctic. Most immediately at risk are the numerous Indigenous communities in and around the Arctic circle such as the Eveny of Siberia and the Inuit of Canada and Greenland. These groups rely on sea ice to traverse the Arctic to hunt, moving from seasonal camps to harvesting areas and cultural spaces. As the sea ice disappears, their way of life is being threatened. A major aspect of Eveny culture is herding reindeer, which requires a stable climate in order to follow migration routes. A changing Arctic endangers the safety of herding families and imperils traditional values and practices.

Additionally, the warming of the Arctic impacts the species that live there, as well as the wider world. Polar bears and walrus rely on sea ice to hunt and rest, while reindeer, foxes and rabbits are among the many species that are uniquely adapted to the climate of the region. Species loss strains Arctic ecosystems, which could eventually collapse as more species are affected. As these closely tied ecosystems unravel, they will eventually cause strain on species further south.

These changes are not isolated to the Arctic, as melting sea ice also poses a risk to the global climate. Scientists predict that warming will lead to melting of substantial portions of the permafrost, the top layer of soil in the Arctic that stays frozen year-round. Thawing of the permafrost, which holds millions of tons of undecomposed organic matter, will release large amounts of methane, a greenhouse gas that causes more warming than carbon dioxide. Scientists warn that will contribute to a feedback loop in the Arctic, where warming temperatures cause increased permafrost loss, which in turn further increases temperatures.

By Noah Salsich '25, Clarke Forum Student Project Manager

Information sourced from: Indigenous Peoples Atlas of Canada (indigenouspeoplesatlasofcanada.ca); UC Davis (ucdavis.edu); "The Arctic is Warming Four Times Faster Than the Rest of the Planet," *The Scientific American*, August 12, 2022; "Permafrost Thaw in Siberia Creates a Ticking 'Methane Bomb' of Greenhouse Gases, Scientists Warn," *Smithsonian*, August 5, 2021; National Oceanic and Atmospheric Administration (pmel.noaa.gov); "The Reindeer People: Living with Animals and Spirits in Siberia," *New York Times*, Dec. 16, 2005