

Reindeer at risk from Arctic hot spell

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Rising winter temperatures in Norway's Lapland are a threat to reindeer

Winter temperatures in Norway's Lapland could rise dramatically this century, with potentially devastating consequences for the region's reindeer and the indigenous Sami people who make their living herding them.

A vast frozen tundra, the mountainous Finnmark plateau in Norway's far north, is experiencing a hot spell—relatively speaking—wreaking havoc on the centuries-old Sami way of life.

"We already feel the effects of global warming here," says Per Gaup, a colourful [reindeer](#) herder in his 60s out on the job. "I can see that we're losing more reindeer because of climate change."

Here, the continental climate with cold and dry winters is gradually becoming more like that of coastal areas, with milder temperatures and more rain.

The change affects grazing conditions for the 146,000 or so semi-domesticated reindeer in the region who feed on lichen and moss under the snow.

"When there's more snow and it turns hard, the animals die because there's less to eat, especially the young ones who are at the bottom of the hierarchy," says Gaup, astride his snowmobile with an orange lasso slung across his chest.

318 words for snow

One of the Sami dialects counts no fewer than 318 words to describe different types of snow. "Seanas", for example, means a kind of grainy snow ideal for reindeer, making it easy for them to dig out the lichen and moss with their hooves.



Reindeer in Kautokeino, a town in Finnmark county, located in northeastern Norway

But it has to be very cold to have that kind of snow. While temperatures in Kautokeino, Norway's main reindeer-herding hub, used to regularly drop to minus 40 degrees Celsius (minus 40 degrees Fahrenheit) for several weeks at a time, nowadays this happens only rarely and briefly.

And today's conditions are just a taste of what is to come. The mercury is expected to rise by seven to eight degrees Celsius in winter in Finnmark by the end of this century, according to Rasmus Benestad, a researcher at the Norwegian Meteorological Institute.

A recurring problem for the reindeer now is alternating periods of thaw and freezing, which create thick layers of ice that the starving reindeer are unable to penetrate with their hooves.

When reindeer can't access the lichen and moss on their herder's grazing grounds, the flocks seek out other pastures. This can cause conflicts between herders over grazing grounds, which are not officially demarcated, and may require the herders to resort to the onerous and heavy task of putting out fodder.

The changing climate also complicates the twice-yearly transhumance, when the herders move the reindeer from their summer grazing grounds along the coast to their winter pastures in the Finnmark mountains, and vice versa.

Because of longer autumns, the ice, now often thinner and unpredictable, can give way under the weight of the reindeer as they cross waterways, sometimes taking the animals, and even their herders, into the deep.

"It's getting worse and worse," says another herder, alarm in his voice. "Last year, I lost at least 12 reindeer that fell through the ice. They died. I wasn't able to get them out," he says.

In November 2009, almost 300 animals from a single flock drowned in a river in neighbouring Sweden.



A reindeer police officer rides his snow scooter as he patrols in Finnmark county in northeastern Norway

Arctic too hospitable

"The reindeer have always lived with the changing climate and they've learned to adapt to nature," notes Anders Oskal, the director of the International Centre for Reindeer Husbandry.

"Our main concern is that the Arctic is becoming increasingly accessible as it gets warmer, leading to an explosion of human activity," he says.

Prospecting and development of mining and wind energy, along with the construction of roads and holiday cabins all compete with the Samis' ancestral practices, encroaching on their pastures.

"The reindeer may be a semi-domesticated animal but it will always try to stay away from anything it associates with man, especially the females and the young," says Oskal.

Mathis Andreas, a 47-year-old herder, is worried about the potential impact of a Canadian mining company's alleged interest in land near his pastures.

"We can't welcome with open arms people who come and destroy our livelihood, our way of life, our traditional lands," he says.

"No one besides us has ever lived here. A company would just turn up one day and grab what has belonged to us from generation to generation, for hundreds, if not thousands, of years?"

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