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DISPATCH

I went to the Arctic wilderness. This is how it's changing

Polar bears are making a comeback in Svalbard, home to the world's most northerly settlement — and that's not the only challenge for an archipelago facing tensions with Russia, booming tourism and a shifting climate



Rhys Blakely visits Ny-Ålesund's Arctic science base, where temperatures plunge to minus 20C in winter

[Rhys Blakely](#), Svalbard

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Over a distance of ten metres polar bears in the prime of life are as quick as Usain Bolt. They can weigh two thirds of a tonne and are said to be capable of knocking a beluga whale senseless with a single swipe of a paw.

“Also, they are always hungry,” Arnt Rennan tells me soon after I arrive at the Arctic science base of Ny-Ålesund. “And we’re seeing far more of them than we did 30 years ago.”

Ny-Ålesund, which sits on the western edge of Spitsbergen, the largest island of Norway’s Svalbard archipelago, is the world’s most northerly human settlement.



Once a coal mining outpost, it’s now a centre for climate research, built on a patch of tundra where the climate is changing more quickly than almost anywhere else on the planet.

Over coffee Rennan, the station chief for the Norwegian Polar Institute, describes how the bears have made a comeback after a hunting ban rescued the local population from extinction in 1973, and how they're adapting to a shifting ecosystem. Rarely seen here in the Nineties, they've been spotted near, or inside, the outpost about once a week since May.

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Ideally, he adds, a team of bear wranglers scare them off before they wander into the base's "safe zone". It doesn't always work, but he suggests it's not such a bad thing for the researchers and engineers who work here to catch sight of the region's apex predator every so often.

"It's a nice reminder for them to stay alert when they go out into the field," he reasons.

The return of the bears is just one of the changes being seen in this portion of the High Arctic. During a visit with the British Antarctic Survey (BAS), which runs the UK's science operations here, I hear about how the strategic value of these isolated islands is rising amid tensions with Russia, how Svalbard's booming tourist industry faces an uncertain future, and how its largest town has come to rely on a surprisingly large — but increasingly disaffected — population of immigrants from tropical southeast Asia. Most of all, though, I hear about how the climate is shifting.

About 30 humans stay at Ny-Ålesund through the winter, when the sun does not rise for more than three months and temperatures can plunge to minus 20C.



The science base on Ny-Ålesund, the largest island in the Svalbard archipelago

ESTHER HORVATH / ALFRED WEGENER INSTITUTE

In the summer, when the sun does not set, the population swells to more than 100, as scientists fly in from around the world.

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The view from the canteen, where researchers, engineers and support workers from a dozen countries eat together, is breathtaking.



The view from the canteen at the Ny-Ålesund base

On the horizon distant glaciers glimmer in the sun as they flow through a dark and jagged mountain range. The name “Svalbard”, I’m told one evening over dinner, comes from the Old Norse for “the cold edge”.

But almost no other region of Earth is warming more quickly, with average annual temperatures rising by about 4.9C since the 1970s.

The landscape is steadily being transformed as frozen seas, snow and permafrost give way to open water, rain and vegetation.

It has been decades since anybody was born on Svalbard: there’s no midwife and pregnant women must leave to give birth. You’re also discouraged from dying here; the sick and infirm aren’t allowed to stay.

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Yet I'm told that Norway must maintain a significant human presence on the archipelago — a group of islands with no indigenous population, far from supply depots and subject to wild and unpredictable weather — to ward off Russia, whose Northern Fleet operates from the port of Murmansk, just 650 miles to the south.

The Arctic is becoming a geopolitical hotspot as it melts and its resources, which include oil, natural gas, iron ore, copper, nickel, zinc, phosphates and diamonds, become more accessible.

Oslo, which has controlled Svalbard since 1925 under a treaty that prevents any military deployment, once relied on coal mining to keep a community here. After coal proved unprofitable, it switched to promoting it as a science hub and a “sustainable” tourist destination.

But the risk of avalanches from thawing permafrost means some of the most popular hiking routes have been abandoned.

In winter snowmobile tours across the wilderness have had to be rescued by helicopters after being bogged down in unseasonal slush. In spring the dogs that pull tourists on sleds are overheating.

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On a boat trip across the fjord that lies next to Ny-Ålesund, Dorothea Moser of the BAS, shows me how maps of the region will have to be redrawn.



Dorothea Moser carries a rifle for protection against polar bears

EMILY NEWTON/BRITISH ANTARCTIC SURVEY

As puffins bob on the surrounding swell and arctic terns wheel in the sky above, she points out a large rocky mound called Blomstrandhalvøya.

According to the charts we're using to navigate, it's a peninsula. But the glacier ice that once connected it to the landmass of Spitsbergen has vanished. The sea has swept in and cut

Blomstrandhalvøya off — it's now an island.

The next day we walk to — and then, after fitting our hiking boots with crampons, on top of — the nearby Austre Brøggerbreen glacier. Under our feet we see turbid streams of red, iron-rich meltwater flowing through the ice towards the sea.



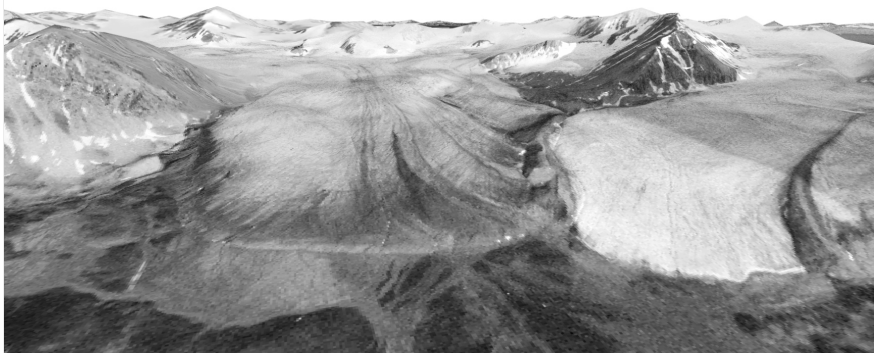
Moser and a colleague each carry a rifle, a safety measure for

anybody who leaves the Ny-Ålesund safe zone. At intervals we pause to scan the rocky terrain, training binoculars on anything that might be a bear. We don't see one, which leaves me with mixed feelings.

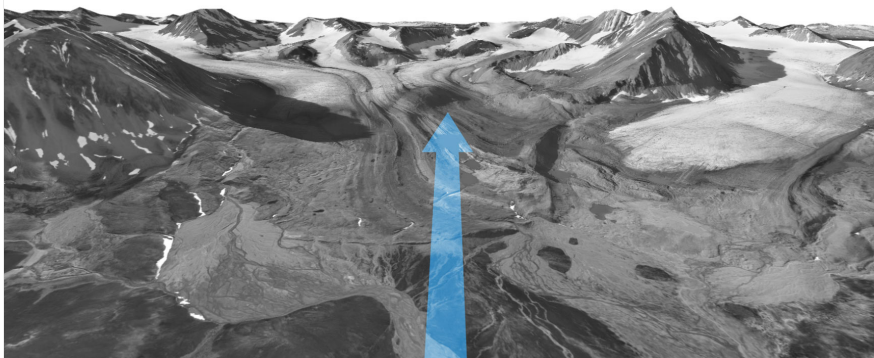
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The closest I'll get to the world's largest terrestrial carnivore is being shown a pile of desiccated sludge full of geese eggshells, opposite some of the UK huts at Ny-Ålesund — polar bear vomit, I'm told.

Back at base we check old maps and find that the trek to the front of the glacier took perhaps 30 minutes longer than it would have done in the 1930s. The ice has retreated by roughly a mile since then.



Austre Brøggerbreen glacier photographed in 1935



The glacier circa 2023. The front edge has retreated by about a mile in recent decades, with the thickness of remaining ice decreasing

Later I talk to Professor Neil Glasser of Aberystwyth University, who filmed the video above. He studied Austre Brøggerbreen in the late 1990s. In 2023 he returned to Svalbard for the first time in more than 20 years. He was there again last month, a week before I arrived. The view from the turboprop plane that carries passengers to Ny-Ålesund has left him shaken.

“The glaciers look sick,” he says. “As they lose more in meltwater than they gain in fresh ice and snow each year, they’re wasting away.”

The ice of the lower and middle reaches of Austre Brøggerbreen, a relatively small glacier, is probably 100 metres deep. A few decades ago, he estimates it would have been 150 metres.

Moser explains how a record of the deep past is being erased. In Cambridge, where BAS has its headquarters, she studies how the gasses trapped in ancient ice cores provide a record of prehistoric climate conditions. “We can read the ice like a book,” she says. “It tells the story of the climate of the past, layer by layer, page by page. But as it melts, those pages are withering.”

On the boat, as chunks of blue glacier ice floated past us on the fjord, we’d been able to hear gas bubbles that were trapped thousands of years ago crackling and popping.



Floating ice recently calved from the Blomstrandbreen glacier

EMMA NEWTON / BRITISH ANTARCTIC SURVEY

In the sea itself commercially important fish including Atlantic cod have appeared in the waters off Svalbard as they move north to escape the warming seas of their traditional ranges.

On land the closest thing to a tree that grows on the archipelago is a dwarf willow that stands just a few centimetres tall.



SERJ YULAKOV/GETTY IMAGES

But vegetation is less sparse than it once was. Dr Kevin

Newsham of BAS tells me: “In recent decades there’s been a significant increase in shrub cover — a phenomenon that has become known as ‘the greening of the Arctic’ or ‘shrubification’.”

For the past ten years he’s been placing what amount to miniature greenhouses, made from the same toughened plastic as police riot shields, on a patch of tundra about seven miles from Ny-Ålesund.

They each heat a small patch of soil and vegetation by about 1C, giving a glimpse of how the habitat may change in the next decade or so.



Kevin Newsham, a terrestrial ecologist, has spent the past decade studying the vegetation near Ny-Ålesund

BRITISH ANTARCTIC SURVEY

The aim is to unravel the driving forces of shrubification, including the role of fungi that live beneath the surface of the earth. The fungi send out networks of incredibly fine “hyphae” strands which gather up nutrients that are then passed to the plants.

These intricate — and until now, invisible — relationships are fuelling large-scale transformations: as reflective ice is replaced by green plant life, more of the sun’s heat is absorbed, which causes more ice to melt. Feedback loops like this explain why

the pace of climate change across Svalbard is up to seven times faster than the global average.

“Some species may be able to adapt to this new Arctic — the ‘if and how’ of that is part of the research our scientists are doing here,” says Henry Burgess, of the Natural Environment Research Council, which funds the British station at Ny-Ålesund.

“But others won’t. Their places in the ecosystem will be taken by species from the south, which are adapted to warmer and more unpredictable conditions. This is an Arctic ecosystem revolution, not evolution.”

So far, Svalbard’s bears appear to be coping. Historically their most important prey has been highly calorific, blubber-rich ringed seals, which they stalk on the sea ice that forms across much of the High Arctic as temperatures plunge in the winter.

This hunting ground is shrinking, however, with the annual number of ice-free days around Svalbard rising from about 100 in the 1980s to more than 200 in recent years.

About 250-300 “local” bears have adapted by spending far more time on land. Instead of eating seals, they are plundering birds’ eggs and taking more reindeer.

“At the moment, they’re doing just fine,” says Dr Jon Aars of the Norwegian Polar Institute, who has tracked dozens of females, which he and his colleagues fit with radio collars. The heads of male bears are narrower than their shoulders, which means collars slip off.

A larger population of “pelagic” polar bears, who spend more of the year on sea ice to the north, also appear to be in good condition, he says.



Jon Aars with a tranquilized polar bear that has been fitted with a tracker
NORWEGIAN POLAR INSTITUTE



NORWEGIAN POLAR INSTITUTE

But he fears that the bears are approaching a tipping point: the species is not found in any region completely devoid of sea ice, he explains — a situation that could be seen here within a few decades.

“In the future, it may be much harder to be a bear in Svalbard,” he says.

Already, changes in the creatures’ lifestyle mean they are

crossing paths with humans more often.

Erlend Havestrøm, one of the two bear watchmen who guard Ny-Ålesund, explains that polar bears are extraordinarily inquisitive. “They don’t see us as food, necessarily,” he says.

But they will investigate anything that stands up vertically from the horizon, such as pieces of scientific equipment — or scientists. So the front door of every hut and cabin is left unlocked, in case anybody has to scramble inside. The tiny Ny-Ålesund museum is open 24 hours a day.

In the town of Longyearbyen, Svalbard’s largest settlement, with a population of about 2,200, helicopters are used to scare the bears away.



JON AARS/NORWEGIAN POLAR INSTITUTE

But the tactic isn’t always effective and until last year, its most notorious visitor was a female bear known as Frost.

“It wasn’t as if she was a dreadful bear,” says Hege Giske, who works at the local brewery, the world’s most northerly beer

maker. “She was totally calm — it was just that she’d just trained her kids to break into cabins instead of hunting seals. And for the community here, that was quite a stressful thing.”

At least three of Frost’s offspring were shot after run-ins with humans. Last year Frost herself was killed after a cabin raid.

In 2011 a polar bear killed a 17-year-old British boy, Horatio Chapple, and injured four others on Spitsbergen. The bear attacked their camp on a glacier about 25 miles from Longyearbyen, after a trip wire designed to alert them failed. The animal was reported to be starving and emaciated.

When I visit Ronny Brunvoll, the chief executive of the Svalbard tourist board, in Longyearbyen he talks through the issues facing the town.

Rules due to be introduced next year will ban tourists from coming within 300m of a bear, he says, and an app is being developed to report sightings. How close the animals should be allowed to get to Longyearbyen is a matter of ongoing debate, he adds.

There may have been a push to market the archipelago as a “sustainable” destination — but the emissions of every visitor who flies in or arrives by cruise ship are enormous and virtually everything consumed here is imported.

Even the [Svalbard Global Seed Vault](#), a refrigerated repository designed to preserve plant diversity and described as the planet’s “greatest agricultural insurance policy”, runs on diesel. “Our carbon footprint is not good,” Brunvoll says.



Rhys Blakely in Longyearbyen — where polar bears are just one of the challenges

Meanwhile, Giske describes how locals have come to dread the arrival of the biggest cruise ships, which can carry 3,000 passengers. Tourists have been known to wander uninvited into people's homes — unlocked, in case of bear emergencies — to take snapshots, she says.

Brunvoll expects that the largest ships will soon be barred from berthing at Longyearbyen. A decision has already been made not to build any more hotels, he adds.

A local academic says she expects the Norwegian government to pivot away from tourism and instead focus on making Svalbard a research centre for green technology.

Under the treaty that gives Norway sovereignty, Svalbard is a visa-free zone, open to almost anybody. Yet immigration is another hot topic. There has been a push, Brunvoll tells me, to encourage more Norwegians to settle here, to bolster Oslo's control over an archipelago whose strategic importance promises to rise as new sea routes and mining opportunities open up.

That seems to have involved making Longyearbyen less hospitable to non-Norwegians. Adults who had lived on Svalbard for three years had, until recently, been allowed to take part in local elections, which help decide how basic services are run. But you must now have spent at least three years on the Norwegian mainland. It's also become harder to use foreign driving licences and much tougher for non-Norwegians to find affordable housing.

In Longyearbyen Thais and Filipinos are the second and fourth largest groups by nationality, with Norwegians and Swedes first and third. Asian migrants, who make up about a fifth of the population, have mostly moved to the High Arctic to take up low-paid jobs that attract few Norwegian applicants.

They've long felt marginalised and undervalued, says Varisa Phothisat, 22, whose mother and father brought her here from Thailand when they came to work as a truck driver and cleaner 13 years ago. After the voting changes, frustration gave way to anger. "They rely on us, but we don't feel welcome," she said.

By the time I leave, I realise it's not only the climate that's changing on the cold edge.

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