



8 degrees of suffocation

Svalbard temperatures may skyrocket by 2100, vary widely within local areas, study finds

Warnings that Svalbard will be far more affected by global warming than most parts of the planet are nothing new. But now scientists say some parts of the High North will be noticeably hotter than others.

The average annual temperature of north-east Svalbard may rise by as much as eight degrees Celsius by the end of this century, according to a new report based on findings from more than 100 Norwegian and international researchers. The study is the last of five by the Norwegian Arctic Climate Impact Assessment (NorACIA) as part of an international project ongoing since 2005.

"The really new thing about this report is it focuses on the Norwegian Arctic," said Ellen Øseth, a climate advisor at the Norwegian Polar Institute. "One of the main things in this report is if we stop emitting climate gasses tomorrow we will still have to deal with effects in this region."

The estimated increase of eight degrees doesn't tell the whole story, since variations are expected by season and in neighboring areas.

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A grounded snowmobile surrounded by meltwater is the featured cover photo of the report "Climate Changes in the Norwegian Arctic" by the Norwegian Arctic Climate Impact Assessment. The study finds the average annual temperature of northeast Svalbard may rise as much as eight degrees Celsius by the end of this century, but there will be large variations in neighboring areas.

Disaster may stain Arctic oil

Norway reexamines northern plans after Gulf of Mexico disaster



Oil moves past an oil rig, top right, in the Gulf of Mexico. Photo by Eric Gay/AP.

Hopes of drilling for oil in the Norwegian Arctic may be dimmed by the massive spill from a rig in the Gulf of Mexico as Norwegian authorities say that, at the very least, the industry needs to learn from the accident.

"After this no one can seriously claim that this could not happen in Norway or anywhere else," said Norwegian Environment Minister Erik Solheim, in an interview with Reuters. "If you are not completely blind it will affect everyone on the entire globe."

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Where light and dark are the same

Opposites a reflection of each other in photographer's new exhibit

Anyone can point out the differences between near and far, science and art, or darkness and light. Catrin Andersson is pointing out the similarities.

A glowing head tells tales inspired by polar darkness. Extreme close-ups of dirty ice capture the infinity of space. Electronic buzzing

from researchers at work form "an interpretation of being human in a wide context."

Andersson, a photographer from Malmö, Sweden, will expose such ideas at 4 p.m. Monday during the opening of her exhibit "Beyond The Horizon" at Galleri Svalbard. She captured

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Oops: Russia's not evicted

A chart in the May 4 issue of *Icepeople* listing Svalbard residents by nationality omits to mention the totals are for Norwegian settlements only. The Russian community of Barentsburg, despite struggles, still exists with 420 residents at last count. Also "missing" are the nine residents at the Polish Hornsund polar station.

Who's to blame and how to express your wrath

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Submitting material

Letters, columns, photos and other material are welcome, but we can't offer pay for published items since nobody here is getting paid at the moment. Submissions in electronic form (text, Word documents, JPEGs, etc.) are highly preferred, although typing and/or scanning of items will be considered on a per-case basis. We reserve the right to edit submissions for length, clarity, accuracy, libel and other reasons, but we will also make every reasonable effort to contact the author about any changes prior to publication.



A series of illuminated heads "describes the interpretation of the first physical encounter with a place you formed an opinion about through others' eyes and stories" in Catrin Andersson's photo work "Beyond the Horizon," on display at Galleri Svalbard starting Monday.

'Beyond the Horizon' unites contrasts

HORIZON, from page 1

the images during visits to Svalbard between November of 2008 and February this year, and said assembling the works has been an ongoing process.

"It's something about the change in the contrast in this place," she said, explaining why she came to Svalbard after a lengthy number of exhibitions in places such as Japan, Mexico, Scotland and Serbia. "I think it's amazing. You came here with an open mind, you know basically the work you want to do, but you never know how you will react to being in a place like this."

The nine-photo title piece of "Beyond the Horizon" features a head illuminated in darkness, capturing what Andersson calls "the interpretation of the first physical encounter with

a place you formed an opinion about through others' eyes and stories." Texts from expeditions and other research inspired the images, but she isn't shining any light on how they were illuminated.

"It's confidential," she said. "It's quite nice to have people wondering about how it's made."

Also featured as part of the exhibit is "Out There (In This World)," combining close-up photos of ice with sound captured at the EIS-CAT radar facility near Mine 7.

"It's shots of ice when it was totally frozen in February," she said. "So it's like close up... (but) when I put all those images together it's like you're looking at outer space."

There's more! Visit www.icepeople.net for the complete story.

Briefly

Gala, trains, youth events highlight Syttende Mai

Traditions from tributes at war memorials to an evening gala honoring the person who's done the most to counter "everything that is bad" will again be featured Monday as part of the Norwegian Constitution Day celebration in Longyearbyen.

Norway's national holiday, known as Syttende Mai, emphasizes youths as the country's future and source of patriotic pride. Other major events include a midday "train" procession throughout town and an afternoon gathering for family events at Svalbardhallen.

The evening gala features various arts performances and speeches, along with the awarding of a 10,000-kroner youth cultural scholarship. Also presented is the Tyfus Statuette to a person making a significant positive contribution to society.

The day's schedule of events:

Morning activities: 7 a.m.: Firing of the salute; 8 a.m.: Wreath laying and flag raising at Huset, followed by procession to Skjæringa by the Longyerbyen Big Band; 10 a.m.: Holiday liturgy at Svalbard Church; 11 a.m.: Gather at church for train procession through town ending at Skjæringa.

Afternoon/evening activities: Noon: Salute

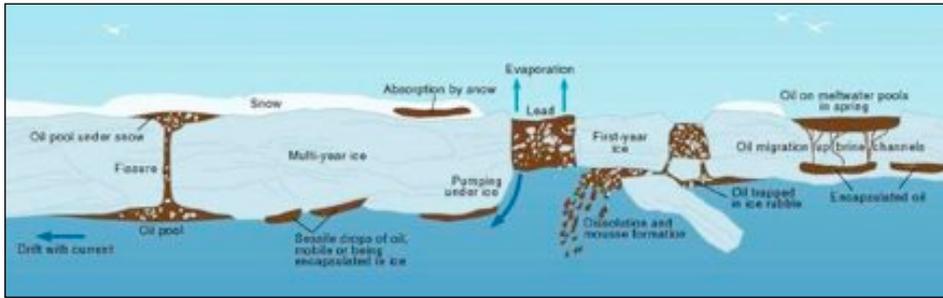
at Skjæringa monument; 12:10 p.m.: Bus departs for Svalbardhallen; 12:15: Family events at Svalbardhallen; 4 p.m.: Opening of exhibit "Beyond The Horizon" at Galleri Svalbard; 7 p.m.: Festival performances at Huset, and presentation of Typhus statuette and Youth Culture Scholarship; 7 p.m.: Ungdomsklubb open for youths.

Russian trawler detained, fined for illegal fishing

A Russian trawler detained Friday by Norwegian officials for illegally poaching and dumping fish near Svalbard was released this week after the captain and ship's owner agreed to pay a total of 150,000 kroner in fines.

The Murmansk-based *Viking* was stopped by the Norwegian Coast Guard in the fisheries protection zone around Svalbard and escorted to Tromsø. An official with Yagry, the Arkhangelsk company that owns the vessel, said they "reject the Norwegian's accusations" and Russia does not acknowledge Norway's rules for fishing in the 200-nautical-mile zone. But the company signed a guarantee to pay 125,000 kroner, with the captain fined an additional 25,000 kroner.

The *Viking* is again fishing at sea, according to *Rybatskaya Gazeta*.



Different behaviors of oil in ice-covered sea water are depicted in this chart by the Arctic Monitoring and Assessment Program. An industry study suggests oil may spread more slowly in Arctic waters, while a science institute analysis concludes oil presents a greater threat to Arctic ecosystems.

Impact of Arctic oil disaster in dispute

SPILL, from page 1

The impact of such a spill is also subject to debate after two recent in-country studies reached somewhat contradictory conclusions. An industry-backed report suggests low Arctic temperatures may actually help during spill cleanups, while a Norwegian Institute for Nature Research study concludes Arctic ecosystems are more vulnerable to a spill than southern areas. The ability of the Norwegian Coast Guard and other agencies to respond to a crisis of such magnitude is also of concern.

More than 4 million gallons of oil have been released since the accident at BP's Deepwater Horizon oil rig three weeks ago, with containment efforts to prevent catastrophic environmental and economic damage to the southeastern coast of the United States unsuccessful to date. A lack of regulation has been faulted, and various companies involved in the rig's construction and operation have pointed fingers at one another during an investigation by Congress.

Norway's three-party ruling coalition is debating whether to start a process this year that may open areas in the Norwegian Sea near the Lofoten and Vesteraalen islands, home to Arctic cod spawning grounds and sperm whales. The area is believed to hold an estimated 1.3 billion barrels in crude and natural gas.

The Labor Party led by Prime Minister Jens Stoltenberg is split on the issue, while the Center Party and Socialist Left are opposed.

"In Louisiana you find some of the most vulnerable coastal areas in the U.S., and the same goes for Lofoten and Vesteraalen in Norway," said Snorre Valen, a spokesman on energy and the environment for the Socialist Left, in an interview with Bloomberg. "It has been a dramatic wake-up call."

Norway's biggest spill came from a blowout at the North Sea Ekofisk Bravo field

in 1977, when about 80,000 barrels leaked during an eight-day period. Another notable incident occurred in 1980 when a storm toppled the Alexander L. Kielland accommodation platform at Ekofisk, killing 123 out of 212 workers.

Svalbard got a taste of responding to a spill on a very small scale, relatively speaking, when the Russian ship *Petrozavodsk* ran aground on the southern coast of Bjørnøya last May. Hostile weather and the rocky cliffs prevented officials from reaching the scene as diesel spilled into the protected bird sanctuary, although the light fuel ultimately caused minimal damage. The ship, now spilt in two, remains grounded despite repeated salvage attempts, with the success of further attempts later this year in doubt.

The question now being asked in oil-rich Arctic areas – Norway and elsewhere – is what happens if a spill like the one in the Gulf of Mexico occurs?

A coalition of environmental groups are seeking an emergency order to stop Shell Offshore Inc. from beginning a drilling project in Alaska's Arctic, for instance, claiming the company lacks sufficient crews, emergency equipment and plans to respond quickly to a significant oil spill. Industry officials, in addition to defending their readiness, point to their research indicating Arctic conditions will aid their efforts.

"Ice is a blessing and a curse," said Ron Morris, general manager of Clean Alaska Seas, an industry co-op that handles spill cleanup on the North Slope, in an interview with the *Los Angeles Times*. "It's hard to get around in it, but it also doesn't allow the oil to expand; it keeps it kind of like a boom, captured, and it keeps the oil layer thicker."

There's more! Visit www.icepeople.net for the complete story.

HEADLINES STOLEN FROM SVALBARDPOSTEN

VERDENS NORDLIGSTE AVIS

60 million kroner fiber optic cable for Ny-Ålesund OK'd

An extension of Longyearbyen's fiber-optic cable to Ny-Ålesund is scheduled to begin later this year after the Norwegian government approved 60 million kroner for the project. The 260-kilometer undersea cable extension will allow significantly faster communication transmissions at the scientific research base, where activities include NASA monitoring of even slight variations in the Earth's crust. The cable will also improve reliability of communications, a problem for several days last December when a repeater station between Longyearbyen and Ny-Ålesund lost power.

Store Norske hopes to keep Mine 7 open at least 20 years

Store Norske is working on plans to ensure operation of Mine 7 for at least 20 more years, which it plans to present to its board this fall. The mine has experienced a few ups and many downs since starting operations 35 years ago, and in February the board mandated profitability had to improve or closure was possible. The board also decided no money would be spent on new equipment, but relented last month and approved 13 million kroner for purchases. Mapping of potential production areas for the next two decades is underway and "it is not certain that is it realistic to get out everything, but it gives us an idea of how much coal is left in the mountains," said Leiv Sanden, the mine's manager.

Businesses may pay more for trash disposal next year

An increase in the amount businesses are required to pay for garbage disposal starting next year is being sought by the head of Longyearbyen's waste operations. Private residents pay 3,000 kroner annually to dispose of waste in bins, a higher per-kilo rate than businesses, said Brynjulv Øverby, who will ask the municipal board to approve the increase in December. He also sent out letters to 70 companies in the city two weeks ago about improving sorting and delivery procedures.

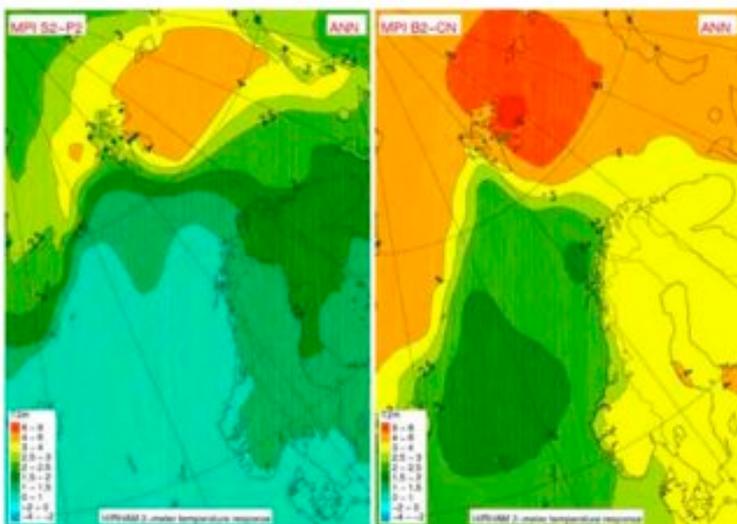
Weather forecast for Longyearbyen

Wednesday	Thursday	Friday	Saturday
Cloudy with light snow. E winds at 4 km/h. High -2C (-3C wind chill), low -4C (-6C wind chill).	Morning fog clearing. NW winds at 1 km/h. High 1C (1C wind chill), low -4C (-5C wind chill).	Partly cloudy. SE winds at 1 km/h. High -2C (-2C wind chill), low -4C (-4C wind chill).	Sunny with overnight clouds. ESE winds at 3 km/h. High -2C (-2C wind chill), low -3C (-7C wind chill).

Extended forecast: Sunday, snow clearing late, 0C (-4C), -2C (-4C); Monday, sun changing to sleet, -0C (-3C), -3C (-7C); Tuesday, sleet turning to snow, -1C (-6C), -4C (-11C); Wednesday, cloudy with light snow, -2C (-3C), -4C (-6C).

Data provided by AccuWeather.com

Projected changes in temperature, in degrees Celsius, in the Norwegian Arctic are shown for the years 1981 to 2000 (left) and 2021 to 2050. Blues represent areas expected to be cooler, greens areas with no or small increases, and yellow and oranges where the largest increases are expected. Graphs provided by the Norwegian Polar Institute.



Impact of warming already being felt

HEAT, from page 1

An average increase of five degrees is forecast for the Norwegian Arctic, with lower-end figures including a rise of one degree in coastal areas of Nordland and Troms, and two degrees in southwest Spitsbergen.

Also, increases are largely to be larger during fall and winter, and inland rather than sea and coastal areas.

"There are large discrepancies in how different global and regional climate models describe present and future ice conditions in the Norwegian Arctic, and the uncertainties in the Arctic climate projections are thus considerable," notes a sub-report focusing on Svalbard.

Increases of 2.5 to 3.5 degrees Celsius are forecast for mainland Norway by the year 2100, with coastal areas experiencing the least change and the Finnmarksvidda plateau the most.

The research also details extensive environmental changes already occurring due to warming – noting Longyearbyen temperatures have risen by about two degrees Celsius since 1912 – and analyzes the future impact on precipitation, oceans, animal migration, society and other subjects.

Precipitation will likely increase as well throughout the region, for example, with the largest changes again during fall and winter.

"Towards the end of this century, there may be a noticeable reduction in the snow season, two months shorter per year on the coast of northern Norway and one month on Finnmarksvidda," a summary of the report states. In addition, "extreme weather in the shape of strong wind and unusual amounts of precipitation may occur more frequently."

Permafrost is thawing more rapidly than previously believed, with the rate intensifying during the past 10 years. That, along with problems such as increasing avalanches and floods, are seen as threats to northern infrastructure. But Øseth said there are no specific places in Svalbard considered vulnerable other than what's already known.

"By 2075 I would probably expect problems at the airport due to permafrost thawing, but by that time the airport will need repairs for other reasons due to age," she said.

Sea ice is also vanishing faster than previously thought, resulting in what will largely be

large-scale threats to existing animal and plant species – along with a few positives such as more rapid growth of some fish species.

"Melting of the sea ice can lead to loss of biological diversity," the summary notes, adding "Examples are ice algae which grow beneath and in the ice, seals which need ice on which to pup, polar bears which live on seals, and several species of seabirds which have much of their lifecycle associated with the ice."

A range of other positive impacts, while greatly outnumbered by dire predictions, are contained in the report. Wild and agricultural plant growth might increase, for instance, but be more vulnerable to disease. Humans may be able to profit from commercial shipping and other activities sooner than expected, but will likely clash with nature, competing business interests and other cultures in the process.

"Sámi occupations (reindeer husbandry, coastal fishing, farming, etc.) play important roles as pillars of Sámi culture," the report notes. "This strong interlock between occupations and culture means that changes in climate and their consequences will exert significant pressure on Sámi culture, and adaptation will be particularly challenging."

Numerous recommendations at local and national levels are made in the report, although it concedes "the changes in climate in the Norwegian Arctic are first and foremost determined by greenhouse gas emissions in other regions." But Øseth said that doesn't mean Arctic can't achieve significant benefits by taking action.

"That's really a dangerous way of looking at it," she said. "If people are thinking 'My contribution is so small it doesn't make any difference,' nobody will do anything."

Local soot emissions may directly impact Arctic warming, the report states, although the recommendations do not specifically suggest coal mining cease in Svalbard. More aggressive policies protecting environmentally sensitive areas are also recommended, with Svalbard considering a ban on ships carrying heavy oil as one such possibility.

English summaries of the report and related research are available at [icepeople.net](http://www.icepeople.net).

There's more! Visit www.icepeople.net for the complete story.

What's up

May 12

7 p.m.: Presentation by filmmaker and author Jan Anders Diesen on Roald Amundsen's South Pole expedition. Radisson.

May 14

4 p.m.: Svalbard Camp registration begins. Outdoor camp in August for youths 13-18 is limited to 40 participants. Fee 800 kroner. Register by sending name, year or birth and mobile telephone number to campsvalbard@lokalstyre.no.

May 16

11 a.m.: Liturgy. Svalbard Church.

May 17

7 a.m. - 10 p.m.: Traditional celebration of Norwegian Constitution Day.

May 18

7 p.m.: Brainstorming session for new cultural center. Næringsbygget, Smutthullet room.

May 22

11 a.m.: Cultural exchange in Barentsburg. Longyearbyen clubs showcase their talents for their Russian counterparts. Ship for first 35 participants departs at 11 a.m., others will depart by helicopter at 1:30 p.m. Show starts at 6:30 p.m.

May 23

11 a.m.: Liturgy. Svalbard Church.

6 p.m.: Movie: "Alice In Wonderland," U.S. family/fantasy, ages 11 and up. Huset.

8 p.m.: Movie: "Green Zone," U.S. action/thriller, ages 15 and up. Huset.

May 27-29

Spitsbergen Rock festival. Details in May 18 issue of *Icepeople*, or online at www.spitsbergenrock.no.

May 30

8 p.m.: Movie: "En Ganske Snill Mann," Norwegian comedy, ages 11 and up. Huset.

What's online

[Icepeople.net](http://www.icepeople.net) provides daily updates of news about Svalbard and the world's polar regions, plus extras for articles from the print edition. Among the latest news:

- *Seed vault and wildlife barcodes hailed*
- *World's largest barque to visit Svalbard*
- *South Pole records warmest year ever*
- *Polar/grizzly hybrid found in Canada*