



THE LAST DEGREE, PART 3: FUN RULES



COURTESY OF CAMP BARNEO

Photos from the exhibit "Summer on Franz Josef Land," by Russian photographer Valeria Wasilewski, are displayed at Camp Barneo. The 40-image project will return to Svalbard and be permanently displayed in Barentsburg after being removed from the camp.

Traveling back to 790 A.D.

Ice cores reveal three major eras of winter climate conditions in Svalbard since the Viking Age

By MARK SABBATINI
Editor

Picture a trip back to the year 790 A.D. and in China you're breaking the law, since its rulers just decreed they don't want citizens thinking life can possibly be any better than it is now.

In Svalbard, on the other hand, you'll just be enjoying a relatively mild winter, albeit with far less protection and diversions in the still-chilly conditions.

You'll need warmer clothes about 350 years later, but there will be a few freakish heat waves after the whalers arrive. A record cold spell will hit shortly before coal mining gets going, followed by a gradual climb back toward those record highs by the time you return home to the Cloud Computing Era.

That journey through time is portrayed in a new study by The Research Council of Norway. The findings are based on an analysis of ice cores extracted in Longyearbyen and Vardø, the first time cores have been used quantitatively to give



NPI
Researcher Elisabeth Isaksson hoists a small ice core sample from a Svalbard glacier.

Fast and frozen

Safety issues delay many, but some hit a quick stride on the ice

By MARK SABBATINI
Editor

Having fun here means following some deadly serious rules.

Some skiing expeditions felt burned after being bumped from their Camp Barneo trip for a later-scheduled group of runners in the

North Pole Marathon. The runners were short-timers just having fun in the world's northernmost degree, unlike the week-plus expeditions requiring extensive preparation and frequently benefiting a cause.

But above all else comes safety, said

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MIKE KING / POLAR RUNNING ADVENTURES

Runners take on soft snow and temperatures of minus 32 degrees Celsius during the North Polar Marathon at Camp Barneo on Friday. Many of the runners are attempting to complete a "grand slam" consisting of marathons on all seven continents and the Pole.

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Who's to blame and how to express your wrath

Editor

Mark Sabbatini

Staff writer/photographer

Karla Paz

Copy editor

Kristan Hutchison

Psychiatrist

Irene Gallion

Mailing address

Icepeople
Vei 210 -2- 13
Longyearbyen, Svalbard
9170
Norway

Telephone

Norway: +47 41 51 46 38
U.S. +1 (970) 673-4472

E-mail

marksabbatini@yahoo.com

Web site

www.icepeople.net

Icepeople is published weekly (or thereabouts) on Tuesdays (or thereabouts), with printed copies available free on a limited basis in Longyearbyen. Additional printed copies are available locally and by mail upon request. Charges are on an "at cost" basis.

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When we screw up you'll know about it – on the front page. One of the big complaints about newspapers is they tend to bury corrections and clarifications deep inside where few people who read the original article see them. If we need to fix something, an alert box on the front page will state what story is in error and where the full correction is printed.

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.

Dominating dogs



MARK SABBATINI / ICEPEOPLE

Liv Bjørsvik mashes her dogs past the starting line of the third-annual Trappers' Trail Sled Dog Race shortly after noon Saturday. The winner was Solfrid Håkenstad, whose seven dogs completed the 70-kilometer, two-day course from Longyearbyen to Kapp Laila and back in three hours and 47 minutes, beating the previous record by 30 minutes. It's her first Trappers' Trail, and she said she and her boyfriend train the dogs three or four times a week "mainly for the purpose of going on trips at Svalbard. We try to focus on having a good time."

Briefly

Two local gymnasts earn trip to UKM finals

Marianne Bøe and Ida Sigernes, both 16, were selected among the top performers at UKM's regional competition in Tromsø this weekend and will represent Longyearbyen at the national competition in June in Trondheim.

Bøe and Sigernes were among 14 local youths selected in February for seven performances at the regional event. The pair performed "The Indian Power," a circus gymnastics routine combining floor choreography and aerobatics on two lengthy "curtains."

Sigernes, in an interview with *Svalbard-posten*, said being selected for the finals was a surprise, especially since Bøe is now attending school in Tromsø and they had little time to practice before the regional competition.

Among the other local participants were Simen Henriksen who Inger Johanne Mørk, who went to last year's finals. Full results are available at www.facebook.com/ukmsvalbard.



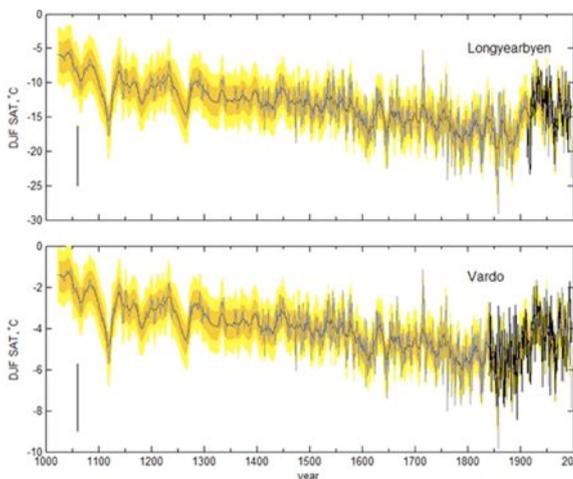
EIRIK DAHL / UKM

Icesheet

Random bits of the week's weirdness:

It seems Svalbard might be the one place where a husband/son/etc. can actually make a woman happy giving her a vacuum cleaner for Mother's Day, based on the mad rush for them during a fire sale this week at Svalbardbutikken. At one point during our brief observation, seven out of 10 shoppers went through the checkout lines with one, making us wonder how most locals are cleaning their floors now. Men, meanwhile, could snag large plastic tool

boxes on wheels, so they're definitely getting the better end of this exchange ... More proof Norwegians aren't that uptight (maybe why we're at/near the top of the world's happiest countries) is at Longyearbyen's other grocery source, the Mix kiosk, where it turns out condoms are sold next to the hanging bags of gummi bears and licorice. There is one non-candy neighbor – Carmex – which one could argue has related uses we probably shouldn't ponder even in a Norsk family publication.



NORWEGIAN POLAR INSTITUTE

Winter temperatures in Longyearbyen and Vardø since 1,000 A.D. are reconstructed, above left, based on a study of ice cores. The yellow markings show areas of uncertainty. Above right, researchers extract a core from Svalbard's Lomonosovfonna glacier in 2009.

Study: 3 climate eras since 790 A.D.

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air temperature variations in the archipelago.

Little historical data about winter air temperatures in Svalbard is available before 1911, when readings with modern instruments began where Svalbard Airport is now, according to Dmitry Divine and Elisabeth Isaksson, who published a summary of their study in the current issue of *Klima* magazine. Layers of the ice cores, extracted from the area in 1997 and 2009, can be analyzed much like tree rings to determine things such as annual precipitation and melt.

An international group of eight scientists spent ten days in 2009 drilling and extracting a 149-meter-deep core on top of Lomonosovfonna, the third-largest glacier in Svalbard and the largest in Spitsbergen. Data from that core, combined with the one from 1997, is being analyzed for elements such as soot to measure pollution and oxygen to determine climate.

The winter temperature study focused on variations in concentrations of stable water isotopes ¹⁸O and ²H, and uses a new method of "scaling" to reconstruct winter temperatures. The findings suggest three major climate periods during the past 1,200 years.

"The Little Ice Age on Svalbard (about 1500-1900) was a progressive cooling of about one degree from the warm period during the Viking Age (790-1100 A.D.) and provides no clear evidence of abrupt climate transitions," the authors wrote.

"In the 1800s, which according to our results was the coldest period in Svalbard during

the Little Ice Age, it was about four degrees cooler than in the 1900s. The rapid warming at the beginning of the 20th century is already well documented in the instrumental data and supported the reduction in sea ice extent of the study area."

Annual winter average temperatures in Longyearbyen ranged from minus five degrees Celsius to minus 25 degrees Celsius. The average for ten-year periods ranged from minus six degrees to minus 17 degrees Celsius.

Temperatures in Vardø varied from minus one degree Celsius to minus ten degrees Celsius, with ten-year averages ranging from minus two degrees Celsius to minus six degrees Celsius.

The accuracy of the findings is progressively less certain going back in time, with deviations of up to four degrees Celsius in either direction possible during the earliest periods.

"One of the most striking features of the reconstruction is that winter temperatures on Svalbard and in Vardø were equally high in the 1300s as they are today," the researchers wrote.

That finding is consistent with an analysis of historic summer temperatures between 2000 and 2007, which suggests melting during the Middle Ages has only been exceeded during the past few years.

The winter temperature study was funded by the research council and the EU project: European Climate of the Last Millennium as part of the NORKLIMA project. The *Klima* article (in Norwegian) is available at www.cicero.uio.no/fulltext/index.aspx?id=8767.

HEADLINES STOLEN FROM SVALBARDPOSTEN VERDENS NORDLIGSTE AVIS

Japan quake, other turmoil helps Store Norske's income

A major earthquake in Japan and unrest in North Africa has caused coal prices to double since last year, with higher prices expected later this year, according to Dag Ivar Brekke, deputy managing director of Store Norske. The company is receiving about \$150 to \$160 (U.S.) per ton, up from \$80 in April of 2010. The turnaround, following a collapse in prices between 2008 and 2009, is due in part to increasing skepticism about nuclear power due to the meltdown at a Japanese plant after last month's earthquake. Germany, for instance, has decided to close seven of its oldest nuclear plants. Conflicts in oil-producing countries of North Africa are also contributing to coal's price increase. Brekke said prices are likely to continue rising – possibly exceeding 2008's peak of \$200 a ton – because only about 90 percent of the 195 million tons Europe imports each year is available from suppliers.

UNIS to investigate exam trip ending in dramatic rescue

An investigation of three intern guides who led four women on a trip to Mosseldalen that ended in a rescue Sunday is planned by The University Centre in Svalbard. The interns were part of the Arctic Nature Guide program and the trip was a requirement for completing the course. Program officials said the interns had extensive experience, although little in Svalbard, and guests able to handle a demanding trip were selected. The scheduled one-month trip to Sørkapp was abandoned after three days when they lost a tent and other equipment in high winds, which also made the subsequent rescue by helicopter difficult. Program officials will evaluate the route, equipment and training procedures to determine if risks can be reduced on future trips.

Kennels in Todalen opposed

Cottage owners in Todalen are opposing a proposal to build several dog kennels in the area, arguing they will be noisy and disrupt an important feeding and breeding area for wildlife. Longyearbyen Hundeklubb says the city has a dire shortage of kennels, with waiting lists of several years for dog owners.

Weather forecast for Longyearbyen

Wednesday	Thursday	Friday	Saturday
Snow. SE winds to 11 km/h. High -5C (-10C wind chill), low -7C (-12C wind chill).	Partly cloudy. Variable winds to 7 km/h. High -6C (-6C wind chill), low -7C (-11C wind chill).	Partly cloudy. E winds to 15 km/h. High -10C (-17C wind chill), low -14C (-20C wind chill).	Partly cloudy. N winds at 11 km/h. High -9C (-14C wind chill), low -14C (-20C wind chill).
Sunrise: 3:18a Sunset 10:48p	Sunrise: 3:05a Sunset 11:02p	Sunrise: 2:51a Sunset 11:17p	Sunrise: 2:35a Sunset 11:35p

Extended forecast: Sunday, p. cloudy, -10C (-16C), -14C (-20C), light 21:42h; Monday, p. cloudy, -10C (-16C), -14C (-20C), light 23:45h; Tuesday, p. cloudy, -9C (-15C), -12C (-18C), light 24:00h; Wednesday, p. cloudy, -10C (-16C), -13C (-18C), light 24:00h.

Data provided by yr.no



CAMP BARNEO



MIKE KING / PRA



CAMP BARNEO

Denis Romanov, top left, prepares food in the mess tent Sunday at Camp Barneo. At bottom left, simple signs display rules for the men's latrine at the ice camp. A rocket celebrating Cosmonauts Day, above right, is launched Sunday in honor of Yuri Gagarin, the first person to travel into space.

Early struggles continue at Barneo

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camp officials in a prepared statement, and "we will take all decisions only in terms of security of people at base camp, and those who aspire to get there."

"A group of marathon runners, in contrast to skiers, have very little cargo - only special shoes with spikes and a few personal belongings. The weight of the aircraft must be considered when a first landing takes place on the newly made or rebuilt runway."

"Therefore, our choice was made not for the benefit of skiers, who bring with them skis and sledges with a supply of clothes and food for several days."

The 27 marathoners from 12 countries paid handsomely for the privilege of running 42 kilometers on a circuitous course at Barneo on Friday, a day later than scheduled. The temperature was minus 32 degrees Celsius and the condition of the uneven soft-snow surface worsened as the race progressed.

The winner was Istvan Toth of Hungary in a time of four hours, 54 minutes and three seconds. The record since the race began in 2004 is 3:36:10.

"The worst bit was the last two miles through the soft, soft snow and just keeping going mentally with the cold and the wind in your face, with your face freezing," Toth said in an interview with BBC News. "But as long as you put that out of your mind you got

through it. Great fun."

A rapid finish was also achieved by a skier who did manage to begin one of the earliest expeditions this year. Parker Liautaud, 16, completed the 110-kilometer Last Degree trip in four days, two hours and 47 minutes, about a week faster than expected and one of the quickest trips in history. He's also one of the youngest people to reach the Pole.

"I'm really thrilled at the outcome," Parker told reporters after returning to Longyearbyen. "We were very well-prepared, and that's why we blitzed through it so fast."

Despite the rush, the teen took 100 snow-thickness measurements every day as part of climate research projects for the European Space Agency and the University of Alberta.

Those stuck at Barneo at least had plenty of time to look at an art exhibit by Russian photographer Valeria Wasilewski. She mounted 23 photos of her project, "Summer on Franz Josef Land," in the ice and snow.

She said tractors were originally supposed to create huge snow piles that could display all 40 photos in the exhibit, but the machines were needed for more urgent runway work.

"We had to organize an exhibition space differently, building a wall of snow cubes and ice blocks," she said in a statement published by the Russian Geographical Society.

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

About the series:
'The Last Degree' follows workers, researchers and expeditions at Camp Barneo during the 10th anniversary of the ice community.



COURTESY OF WENDY BOOKER



SEVEN HILLS



WALKING WITH THE WOUNDED

Wendy Booker, 56, far left, a Multiple Sclerosis patient, trains in Ely, Minn., for her dogsledding trip this month to the North Pole. Parker Liautaud, 16, center, celebrates being one of the youngest people to reach the Pole after completing a Last Degree ski expedition in four days, one week faster than scheduled. At right, a member of another ski expedition examines a crack in the ice runway at Camp Barneo that is delaying the group's trip due to a backlog in the schedule.

What's up

April 13

8 p.m.: Movie: "I Am Number Four," U.S. sci-fi/thriller, ages 11 and up. Kulturhuset.

April 14

Noon: Debut of "baby" cinema, with "Änglagård - Alle Gode Ting er Tre." Dimmer screen and lower volume, with care and feeding of infants and young children allowed. Kulturhuset.

6 p.m.: Board of City Operation Authority meeting. Næringsbygget 3, Newtontoppen room.

April 17

11 a.m.: Palm Sunday Mass with confirmation. Svalbard Church.

6 p.m.: Movie: "Amors Baller," Norwegian comedy, all ages. Kulturhuset.

8 p.m.: Movie: "Norwegian Wood," Japanese drama, ages 15 and up. Kulturhuset.

April 18

Easter Mass in Ny-Ålesund.

April 19

7 p.m.: Discussion with musician/composer Henning Sommerro. Svalbard Church.

April 20

6 p.m.: Movie: "Justin Bieber: Never Say Never" (3D) U.S. documentary/musical, all ages. Kulturhuset.

April 21

7 p.m.: Evening Mass with soup afterward. Svalbard Church.

April 22

1 p.m.: Good Friday Mass at Vindodden.

April 24

11 a.m.: Easter Mass. Svalbard Church.

April 25

8 p.m.: Movie: "Klovn - The Movie," Danish comedy, ages 15 and up. Kulturhuset.

What's online

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:

- *Aboriginal hunters' choice: vote or hunt?*
- *Study: Climate can drive seismic shifts*
- *Europe faces drought, flooding burden*
- *Polar bear hides in demand at auctions*