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Environment Canada scales back climate measurements at Alert due to staff shortage

Cuts to atmospheric, snow and ice measurements leave gaps in climate change data, scientists warn

By Emily Chung, CBC News Posted: Oct 23, 2017 7:45 AM ET | Last Updated: Oct 23, 2017 10:26 PM ET

Environment Canada
Atmospheric Environment Service
Alert Weather Station
Environnement Canada
Service de l'environnement atmosphérique
Station météorologique Alert
Canada

Environment and Climate Change Canada's weather station at Alert, Nunavut, is at the northeastern tip of Ellesmere island, just 817 kilometres from the North Pole. A test station there is seen in a 2006 photo. (Paul Chiasson/Canadian Press)

Canada's northernmost federal weather and research station is scaling back some environmental measurements and possibly suspending some others for six months due to a staff shortage blamed on "unusually high" turnover, CBC News has learned.

Scientists say that will leave a permanent gap in records needed to understand global climate change.

Environment and Climate Change Canada's weather station at Alert, Nunavut, is at the northeastern tip of Ellesmere island, just 817 kilometres from the North Pole — globally, there are few other sources of information about conditions that far north.

Records of atmospheric conditions, snow thickness and sea ice thickness collected at Alert go back half a century, making them some of the longest-running and most valuable in the world for understanding climate change. Researchers across the globe use the data for weather and climate research and prediction, as well as for calibrating aircraft and satellite instruments.

But they're going to have to rely on less data this year.

Measurements have been scaled back since the start of October until the end of March 2018, confirmed Christine Best, director of radar and upper air at the Meteorological Service of Canada, a division of Environment and Climate Change Canada.

Alert is staffed by a rotation of two people at a time. Measurements taken there typically require 90 to 100 hours of work divided between them. And some jobs, such as snow and ice measurements, are two-person jobs, Best said.

Solo deployment

For the rotation that started at the beginning of October, for the first time in recent history, the division wasn't able to find a second person to deploy to Alert due to "unusually high" staff turnover, Best said.

While funding to the Meteorological Service has not been cut by the current Liberal government, it initially planned to suspend measurements for six months in order to save money that could be used on other costs. "Costs go up, so we're trying to live within our means," Best said.

Summer student Lisa Hryciw launches a weather balloon at the Environment Canada test station in Alert in August 2006. Less than half the usual number of weather balloons are expected to be launched from Alert to measure atmospheric conditions between October 2017 and March 2018. (Paul Chiasson/Canadian Press)

However, Environment Canada's science and technology division was worried about the effect that would have on crucial measurements of the ozone hole that forms over the Arctic each spring and can only be detected and measured very close to the North Pole.

The Meteorological Service takes the measurements by preparing an ozone detector and attaching it to a weather balloon once a week.

- **Ozone hole over Arctic hits record**
- **Arctic ozone monitoring stations safe from budget cuts**

In the end, Best said, a single staffer was sent up to Alert and told to prioritize the ozone measurements.

> 'What we're hoping to do with this lemon is make lemonade.'
>
> - Christine Best, Meteorological Service of Canada

However, with a single operator, some other measurements will have to be scaled back or cut altogether.

Normally, weather balloons launch from Alert every 12 hours to measure temperature, pressure, humidity and wind at different levels of the atmosphere. The data feed into a World Meteorological Organization global database. With a single staffer, less than half the usual number of launches will be possible, but it's not yet known how many.

"This is the first time we've ever reduced operations at Alert," Best said in an interview. "So no one has ever kept track of how much time it takes to do everything."

Later Monday, the assistant deputy minister told CBC News that an additional staff member will be in Alert for a Jan. 1 start — and the organization is trying to get someone in for Nov. 1.

No snow data?

Measurements of snow and ice thickness are normally done every two weeks. But because it's a two-person job, whether they happen at all will "depend on our ability to get a second person involved," Best said in an email.

It's not immediately clear whether additional staff will be able to come before the Jan. 1 date cited by officials late Monday.

Icebergs are seen along the bay in Alert. The Meteorological Survey of Canada normally takes ice and snow measurements every two weeks. But it's a two-person job, and only one person is at the station right now. (The Canadian Press)

The Meteorological Service isn't involved in Environment and Climate Change Canada's measurements of carbon dioxide and air pollutants, so those measurements are unaffected.

Best said there is an upside to collecting less data about atmospheric conditions — it will show "just how important are measurements from that location" for weather prediction.

She added that it also provides the opportunity to explore how operations could change in the future, with the use of more automation technology, for example: "We're hoping this never happens again, but what we're trying to do with this lemon is make some lemonade."

Researchers contacted by CBC News about cutbacks were surprised by measurement cutbacks, which don't seem to have been communicated by Environment and Climate Change Canada.

'Gross mismanagement'

"That's awful news," said Thomas Duck, professor of atmospheric science at Dalhousie University, who uses some of the atmospheric data that's being scaled back to help calibrate and validate satellite observations. "I'm floored that it would come to this."

He added that there are "precious few" stations collecting data in the High Arctic, so each one is important for feeding global weather forecasting models.

Environment and Climate Change Canada's Alert Global Atmosphere Watch (GAW) Observatory is the northernmost atmospheric research facility in the world. Its stratospheric ozone measurements are being made a priority and will not be affected by the staffing shortage. (Environment and Climate Change Canada)

The fact that some of that data is being interrupted by a staffing shortage at Alert represents "gross mismanagement," he said. He suggested part of the problem may be that staff cut by the previous Conservative government haven't been replaced since Justin Trudeau's Liberal government was elected in 2015. The Conservative government's 2012 budget alone **cut 19,000 jobs from the public service** and **cut $89.4 million from the Environment portfolio**.

Speaking Monday after news of the staff shortage emerged, assistant deputy minister of environment and climate change David Grimes said that spring flooding in eastern Canada and British Columbia created challenges around staffing.

"We make decisions as an organization on what is the most critical, most essential gap, in order to make sure that we are being sensitive to the needs of Canadians," Grimes said in an interview.

He also acknowledged that working in an isolated post "isn't necessarily a job that everyone applies for."

Grimes described Alert as basically a military base operation with a weather station adjoined to it. "Some people like that but some people don't."

Data gaps

Duck and other scientists, speaking before the possibility of a second staffer arriving in Alert by January or earlier emerged, noted that any gaps in the data from this year could never be filled.

Christian Haas, a sea ice scientist at the Alfred Wegener Institut in Bremerhaven, Germany, who also holds a Canada Research Chair for Arctic Sea Ice Geophysics at York University in Toronto, said Alert is an important site for sea ice measurement because the ice that forms in the Arctic passes by Alert and northern Greenland before drifting farther south. It's also the area with the oldest ice — the kind of ice that is disappearing fastest with climate change.

"What they do is very valuable, because they have been doing it for such a long time that this is one of the most reliable climate data sets," Haas said.

Data on ice, snow and atmospheric conditions collected at Alert is valuable to researchers and weather forecasters around the world because it has been gathered for so many decades in a part of the world where very few other measurements are taken. (Paul Chiasson/Canadian Press)

With snow and sea ice measurements cut back or suspended at Alert this winter, we'll miss any unusual variability this year that could tell us something new about the climate, said Ron Kwok, a senior research scientist at NASA's Jet Propulsion Laboratory at the California Institute of Technology.

"It's going to affect how we compute trends," said Kwok, who uses the snow and ice data from Alert both for analyzing climate trends and for calibrating remote sensors on NASA aircraft and satellites.

He said that while researchers find ways to cope with missing data for short periods of time if they have to, the missing observations are "going to be damaging" to a dataset that is so valuable because it is otherwise mostly continuous.

"You can't get them back."

The measurement cuts coincide with the **World Meteorological Organization's Year of Polar Prediction**, for which Environment and Climate Change Canada has **committed to "enhance its Arctic observations."**

They also come at a time when other Arctic climate research is threatened by an end to funding for the **Polar Environment Atmospheric Research Laboratory** in Eureka, Nunavut, and the other climate research projects under the Climate Change and Atmospheric Research initiative launched by the previous Conservative government in 2013.

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Adam Smith

The cuts always at the front line isn't it? Never at the fatty top layers.

2 hours ago

Amy Molnar (4NeonFun)

Found the money: http://www.cbc.ca/beta/news/opinion/ottawa-subsidies-1.4366718
Been tied up in aerospace and no return...
A collaboration of these things along with how they subsidized Big Oil and Refugees Welfare...

2 hours ago

Ernie Murphy

I doubt a staff shortage is the reason to suspend measurements. It is more likely they do not wish to report the findings that will undermine their agenda. "If ice extents continue to grow at the present rate to month end, the October 2017 monthly average will exceed the 10 year October average by several 100k km2." https://rclutz.wordpress.com/2017/10/23/arctic-october-chill-continues/

3 hours ago

Ron Vollans

Too bad I'm retired. This is exactly the sort of work I'm temperamentally suited for. Long months of isolation, tedious repetitive work, meticulous accuracy, dependable performance...

Actually I know nothing about the work so it might take me six months to learn the procedures, and it certainly won't be as simple as it appears from a CBC story.

4 hours ago

Buford Wilson

Automate it.

5 hours ago

albert franken

Since Trudeau un-muzzled scientists we are up to our necks in brilliant, new scientific discoveries. lol

7 hours ago

NORMAN JAMIESON

Call the UN...they can fix anything Justin...baaaaha

7 hours ago

Cyrus Manz

TRANSLATION:

In the 21st century, you don't need $250K a year 'scientists" making temperature recordings in remote locations, because that's how you THROW GOOD MONEY AFTER BAD PRACTICE and encourage APOCALYPTIC PREDICTIONS by unscrupulous "scientists" on the gravy train of endless public funding.

Just saying.

8 hours ago

Ron Vollans

@Cyrus Manz
Oh good grief!!

6 hours ago

Pete Shartin

I would say all Quebecers in the riding having the election today should make a complaint to elections Canada on the vote buying ploy the hated trudeau regime has put out

8 hours ago

Jason Dean

@Pete Shartin

You have to wonder how this is against elections Canada. The day of the vote the liberals decide. "Hey if you re-elect us we will give you more free money that we have to borrow billions o pay for."

8 hours ago

Amy Molnar (4NeonFun)

@Jason Dean Already did that to a bunch of Syrians.

2 hours ago

Carl Street

Justin is giving all our tax money to his foreign buddies, none left for Canadians ....

9 hours ago

scott kane

@Carl Street actually he is trying to buy votes by announcing a child benefit raise on a by election day. the Liberals will do anything and say anything for a vote, the deal is its all going to cost more for each vote.

8 hours ago

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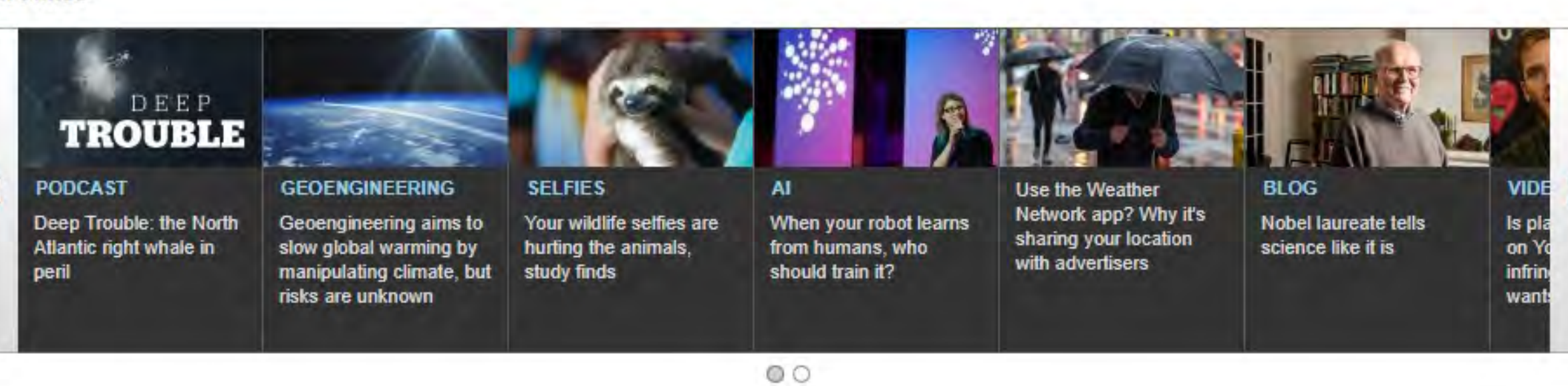

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