

# Big U-turn: Key melting Greenland glacier is growing again

25 March 2019, by Seth Borenstein



This 2016 photo provided by NASA shows patches of bare land at the Jakobshavn glacier in Greenland. The major Greenland glacier that was one of the fastest shrinking ice and snow masses on Earth is growing again, a new NASA study finds. The Jakobshavn glacier around 2012 was retreating about 1.8 miles (3 kilometers) and thinning nearly 130 feet (almost 40 meters) annually. But the last two years it started growing again at about the same rate, according to a study released on Monday, March 25, 2019, in *Nature Geoscience*. Study authors and outside scientists think this is temporary. (NASA via AP)

A major Greenland glacier that was one of the fastest shrinking ice and snow masses on Earth is growing again, a new NASA study finds.

The Jakobshavn (YA-cob-shawv-en) glacier around 2012 was retreating about 1.8 miles (3 kilometers) and thinning nearly 130 feet (almost 40 meters) annually. But it started growing again at about the same rate in the past two years, according to a study in Monday's *Nature Geoscience*. Study authors and outside scientists think this is temporary.

"That was kind of a surprise. We kind of got used to a runaway system," said Geological Survey of Denmark and Greenland ice and climate scientist Jason Box. "The good news is that it's a reminder

that it's not necessarily going that fast. But it is going."

Box, who wasn't part of the study, said Jakobshavn is "arguably the most important Greenland glacier because it discharges the most ice in the northern hemisphere. For all of Greenland, it is king."

A natural cyclical cooling of North Atlantic waters likely caused the glacier to reverse course, said study lead author Ala Khazendar, a NASA glaciologist on the Oceans Melting Greenland (OMG) project. Khazendar and colleagues say this coincides with a flip of the North Atlantic Oscillation—a natural and temporary cooling and warming of parts of the ocean that is like a distant cousin to El Nino in the Pacific.

The water in Disko Bay, where Jakobshavn hits the ocean, is about 3.6 degrees cooler (2 degrees Celsius) than a few years ago, study authors said.

While this is "good news" on a temporary basis, this is bad news on the long term because it tells scientists that ocean temperature is a bigger player in glacier retreats and advances than previously thought, said NASA climate scientist Josh Willis, a study co-author. Over the decades the water has been and will be warming from man-made [climate change](#), he said, noting that about 90 percent of the heat trapped by greenhouse gases goes into the oceans.

"In the long run we'll probably have to raise our predictions of sea level rise again," Willis said.

Think of the [ocean](#) temperatures near Greenland like an escalator that's rising slowly from global warming, Khazendar said. But the natural North Atlantic Oscillation sometimes is like jumping down a few steps or jumping up a few steps. The water can get cooler and have effects, but in the long run it is getting warmer and the melting will be worse, he said.

Four outside scientists said the study and results make sense.

University of Washington ice scientist Ian Joughin, who wasn't part of the study and predicted such a change seven years ago, said it would be a "grave mistake" to interpret the latest data as contradicting climate change science.

What's happening, Joughin said, is "to a large extent, a temporary blip. Downturns do occur in the stock market, but overall the long term trajectory is up. This is really the same thing."

**More information:** Interruption of two decades of Jakobshavn Isbrae acceleration and thinning as regional ocean cools, *Nature Geoscience* (2019).

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