



## Greenland's fastest-shrinking glacier is growing again

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March 26 (UPI) -- For the last two decades, Greenland's Jakobshavn Glacier has been rapidly melting. It is the island's fastest-flowing and fastest-thinning glacier. But according to new data collected by NASA scientists, the glacier is growing again.

Though Jakobshavn is still losing more ice than it's gaining snow pack -- making it a contributor to sea level rise -- the glacier is no longer receding or thinning. Jakobshavn is now thickening and advancing toward the ocean. It's also flowing more slowly.

According to new research by scientists at NASA's Jet Propulsion Laboratory, the glacier's turnaround is explained by the arrival of cold coastal water. The research was published [in the journal Nature Geoscience](#) this week.

The cold currents first arrived in 2016, and temperatures near the face of the glacier are now the coldest they've been in 40 years.

"At first we didn't believe it," JPL glaciologist Ala Khazendar said in a news release. "We had pretty much assumed that Jakobshavn would just keep going on as it had over the last 20 years."

Scientists estimate a climate pattern called North Atlantic Oscillation is driving the ocean temperature changes observed along Greenland's west coast. The same climate pattern has brought [unexpected species](#) to British waters in recent years.

The NAO pattern reverses every five to 20 years. When it flips again, Jakobshavn will likely begin thinning and receding again.

"Jakobshavn is getting a temporary break from this climate pattern. But in the long run, the oceans are warming," said Josh Willis, lead scientist for NASA's Oceans Melting Greenland mission. "And seeing the oceans have such a huge impact on the glaciers is bad news for Greenland's ice sheet."

Several factors influence a glacier's melting rates, including air temperature and its interior structure. Scientists with the OMG mission, however, are keen to better understand the influence of ocean currents and temperatures on coastal glaciers.

As the latest Jakobshavn observations suggest, ocean patterns have a significant impact on glacial behavior.

Scientists with the [OMG mission recently returned](#) to Greenland for another series of aerial surveys. The data they collected will help researchers more precisely characterize the effects of water temperatures, as well as ocean currents and waves, on the undersides of Greenland's melting glaciers.

"The OMG mission deployed new technologies that allowed us to observe a natural experiment, much as we would do in a laboratory, where variations in ocean temperatures were used to control the flow of a glacier," said NASA scientist Tom Wagner. "Their findings -- especially about how quickly the ice responds -- will be important to projecting sea level rise in both the near and distant future."

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