

## WHAT IS THE BLUE BLOB?

Relevant for: Geography | Topic: Various Landforms, Changes Therein and the Effects of Such Changes

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The Blue Blob is a cold patch located south of Iceland and Greenland and little is known about it. However, a recent study theorises that it may have helped temporarily stall the melting of Arctic sea ice. The cold patch was most prominent during the winter of 2014-2015 when the sea surface temperature was about 1.4 degrees Celsius colder than normal.

The Arctic region is reportedly warming four times faster than the global average. Iceland's glaciers steadily shrank from 1995 to 2010, losing an average of 11 billion tons of ice per year. Starting in 2011, however, the speed of Iceland's melting slowed, resulting in about half as much ice loss, or about five billion tons annually. This trend was not seen in nearby, larger glaciers across Greenland and Svalbard.

The researchers found that cooler waters near the Blue Blob were linked to observations of lower air temperatures over Iceland's glaciers and coincided with a slowing of glacial melting since 2011.

Other scientists have proposed that the Blue Blob is part of the normal sea surface temperature variability in the Arctic. Notably, especially cold winters in 2014 and 2015 led to record cooling, which caused upwelling of cold, deep water, even as ocean temperatures around the region warmed due to climate change.

Before the Blue Blob, a long-term cooling trend in the same region, called the Atlantic Warming Hole, reduced sea surface temperatures by about 0.4 to 0.8 degrees Celsius during the last century and may continue to cool the region in the future. A possible explanation for the Warming Hole is that climate change has slowed the Atlantic Meridional Overturning Circulation, an ocean current that brings warm water up from the tropics to the Arctic, thus reducing the amount of heat delivered to the region.

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