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Arctic winter sea ice shrinks to record low

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The Arctic Ocean had less sea ice this winter than any year since records began. The unprecedented low brings the prospect of an ice-free Arctic a step closer.

Summer ice has seen a series of record lows in recent years as the Arctic has warmed by almost 2°C, double the rate at mid-latitudes. Ice reforms each winter and, until now, the average extent of winter ice has remained relatively constant, though the loss of permanent ice means it is thinner than before.

But last year's winter re-freeze of the waters of the Arctic Ocean was the lowest since satellite observations began in 1979, according to provisional data released by the National Snow and Ice Data Center at the University of Colorado in Boulder. The maximum of 14.5 million square kilometres, [recorded on 25 February](#), beat the previous worst, recorded in 2011, by 1 per cent.



Melting sea ice in the Hurd channel in Nunavut, Canada, August 2014 (*Image: Paul Souders/Corbis*)



Arctic sea ice extent for 25 February 2015. The orange line shows the 1981 to 2010 median extent for that day. The black cross indicates the geographic North Pole (Image: National Snow and Ice Data Center)

NSIDC researchers are wary of blaming global warming. They point out that there is a lot of natural variability. This winter, an unusual path taken by the jet stream – a high altitude wind that affects weather at ground level- strongly warmed the Pacific side of the Arctic, reducing ice in the Bering Sea in particular.

The winter peak in ice was also lower this year because the spring melt began two weeks earlier than usual.

"There is a strong presumption, based on earlier years, that this will result in a very low minimum this summer," says [Peter Wadhams](#), of the University of Cambridge. But

[Jason Box](#) of the Geological Survey of Denmark and Greenland says that while such a conclusion was tempting, the sea ice winter maximum is not a very useful predictor of the summer minimum.

Nonetheless, the Arctic is changing profoundly, says Box. "We are already in uncharted territory," he says. "Models are all understating the Arctic response to climate change."

One sign is an epidemic of wildfires in the Arctic tundra. Box's own unpublished data reveals a doubling in the number of fires over the past 15 years. "Last year was the most powerful fire season on record," he told a conference in Oslo last week. The fires are generating soot that [darkens snow and ice](#), reducing the reflectivity of the Arctic and accelerating warming further.