

Arctic ice cover hits historic low: scientists

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A fisherman in Arctic waters off the coast of Greenland. The area covered by Arctic sea ice reached its lowest point this week since the start of satellite observations in 1972, German researchers announced on Saturday.

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"On September 8, the extent of the [Arctic sea ice](#) was 4.240 million square kilometres (1.637 million square miles). This is a new historic minimum," said Georg Heygster, head of the Physical Analysis of Remote Sensing Images unit at the University of Bremen's Institute of Environmental Physics.

The new mark is about half-a-percent under his team's measurements of the previous record, which occurred on September 16, 2007, he said.

According to the US National Snow and Ice Data Center (NSIDC), the record set on that date was 4.1 million sq km (1.6 sq mi). The discrepancy, Heygster explained by phone, was due to slightly different data sets and algorithms.

"But the results are internally consistent in both cases," he said, adding that he expected the NSIDC to come to the same conclusion in the coming days.

[Arctic ice](#) cover plays a critical role in regulating Earth's climate by reflecting sunlight and keeping the [polar region](#) cool.

Retreating summer sea ice -- 50 percent smaller in area than four decades ago -- is described by scientists as both a measure and a driver of global warming, with negative impacts on a local and planetary scale.

It is also further evidence of a strong human imprint on climate patterns in recent decades, the researchers said.

"The sea ice retreat can no more be explained with the natural variability from one year to the next, caused by weather influence," Heygster said in an statement released by the university.

"[Climate models](#) show, rather, that the reduction is related to the man-made global warming which, due to the albedo effect, is particularly pronounced in the Arctic."

Albedo increases when an area once covered by reflective snow or ice -- which bounces 80 percent of the Sun's radiative force back into space -- is replaced by deep blue sea, which absorbs the heat instead.

Temperatures in the Arctic region have risen more than twice as fast as the global average over the last half century.

The Arctic ice cover has also become significantly thinner in recent decades, though it is not possible to measure the shrinkage in thickness as precisely as for surface area, the statement said.

Satellite tracking since 1972 shows that the extent of [Arctic sea](#) ice is dropping at about 11 percent per decade.

NSIDC director Mark Serreze has said that summer ice cover could disappear entirely by 2030, leaving nothing but heat-trapping "blue ocean."

The NSIDC likewise monitors Arctic ice cover on a daily basis, but has not announced record-low [ice cover](#). Data posted on its website as of Saturday only covered the period through September 6.

By last week, it said, sea ice is almost completely gone from the channels of the Northwest Passage. The southern route -- also known as Amunden's Route -- was also ice free, as was the Northern Sea Route along Siberia.

But even as the thaw opens shipping lanes, it disrupts the lives and livelihoods of indigenous peoples, and poses a severe threat to fauna, including polar bears, ice seals and walruses, conservation groups say.

"This stunning loss of Arctic [sea ice](#) is yet another wake-up call that climate change is here now and is having devastating effects around the world," said Shaye Wolf, climate science director at the Center for Biological Diversity in San Francisco.

The last time the Arctic was uncontestedly free of summertime ice was 125,000 years ago, during the height of the last major interglacial period, known as the Eemian.

Air temperatures in the Arctic were warmer than today, and sea level was also four to six metres (13 to 20 feet) higher because the Greenland and Antarctic Ice Sheets had partly melted.

Global average temperatures today are close to the maximum warmth seen during the Eemian.

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