

Thanks for the feedback! [Undo](#)
We'll use your feedback to review ads on this site.

Google

https://www.sciencedaily.com/releases/2016/03/160328195126.htm

Science News

from research organizations

Print Email Share

2016 Arctic sea ice wintertime extent hits another record low

Date: March 28, 2016

Source: NASA/Goddard Space Flight Center

Summary: Arctic sea ice appears to have reached a record low wintertime maximum extent for the second year in a row, according to scientists.

Share: Facebook Twitter Google+ LinkedIn + Email

PENN STATE ONLINE

Make a world of difference – apply today!

LEARN MORE

PENN STATE World Campus

FULL STORY



Arctic sea ice was at a record low wintertime maximum extent for the second straight year. At 5.607 million square miles, it is the lowest maximum extent in the satellite record, and 431,000 square miles below the 1981 to 2010 average maximum extent.

Credit: NASA Goddard's Scientific Visualization Studio/C. Starr

Arctic sea ice appears to have reached a record low wintertime maximum extent for the second year in a row, according to scientists at the NASA-supported National Snow and Ice Data Center (NSIDC) and NASA.

Every year, the cap of frozen seawater floating on top of the Arctic Ocean and its neighboring seas melts during the spring and summer and grows back in the fall and winter months, reaching its maximum yearly extent between February and April. On March 24, Arctic sea ice extent peaked at 5.607 million square miles (14.52 million square kilometers), a new record low winter maximum extent in the satellite record that started in 1979. It is slightly smaller than the previous record low maximum extent of 5.612 million square miles (14.54 million square kilometers) that occurred last year. The 13 smallest maximum extents on the satellite record have happened in the last 13 years.

The new record low follows record high temperatures in December, January and February around the globe and in the Arctic. The atmospheric warmth probably contributed to this lowest maximum extent, with air temperatures up to 10 degrees Fahrenheit above average at the edges of the ice pack where sea ice is thin, said Walt Meier, a sea ice scientist at NASA's Goddard Space Flight Center in Greenbelt, Maryland.

The wind patterns in the Arctic during January and February were also unfavorable to ice growth because they brought warm air from the south and prevented expansion of the ice cover. But ultimately, what will likely play a bigger role in the future trend of Arctic maximum extents is warming ocean waters, Meier said.

"It is likely that we're going to keep seeing smaller wintertime maximums in the future because in addition to a warmer atmosphere, the ocean has also warmed up. That warmer ocean will not let the ice edge expand as far south as it used to," Meier said. "Although the maximum reach of the sea ice can vary a lot each year depending on winter weather conditions, we're seeing a significant downward trend, and that's ultimately related to the warming atmosphere and oceans." Since 1979, that trend has led to a loss of 620,000 square miles of winter sea ice cover, an area more than twice the size of Texas.

This year's record low sea ice maximum extent will not necessarily result in a subsequent record low summertime minimum extent, Meier said. Summer weather conditions have a larger impact than the extent of the winter maximum in the outcome of each year's melt season; warm temperatures and summer storms make the ice melt fast, while if a summer is cool, the melt slows down.

Arctic sea ice plays an important role in maintaining Earth's temperature--its bright white surface reflects solar energy that the ocean would otherwise absorb. But this effect is more relevant in the summer, when the sun is high in the sky in the Arctic, than in the winter, when the sun doesn't rise for months within the Arctic Circle. In the winter, the impact of missing sea ice is mostly felt in the atmosphere, said Jennifer Francis, a climate scientist at Rutgers University in New Brunswick, New Jersey.

"In places where sea ice has been lost, those areas of open water will put more heat into the atmosphere because the air is much colder than unfrozen sea water," Francis said. "As winter sea ice disappears, areas of unusually warm air temperatures in the Arctic will expand. These are also areas of increased evaporation, and the resulting water vapor will contribute to increased cloudiness, which in winter, further warms the surface."

Story Source:

The above post is reprinted from materials provided by NASA/Goddard Space Flight Center. Note: Materials may be edited for content and length.

Cite This Page:

MLA APA Chicago

NASA/Goddard Space Flight Center. "2016 Arctic sea ice wintertime extent hits another record low." ScienceDaily. ScienceDaily, 28 March 2016. <www.sciencedaily.com/releases/2016/03/160328195126.htm>.

Thanks for the feedback! [Undo](#)

We'll use your feedback to review ads on this site.

Google

Related Stories

2015 Antarctic Maximum Sea Ice Extent Breaks Streak of Record Highs

Oct. 15, 2015 — The sea ice cover of the Southern Ocean reached its yearly maximum extent on Oct. 6. At 7.27 million square miles (18.83 million square kilometers), the new maximum extent falls roughly in the middle ... [read more](#) »



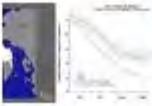
2014 Arctic Sea Ice Minimum Sixth Lowest on Record

Sep. 23, 2014 — Arctic sea ice coverage continued its below-average trend this year as the ice declined to its annual minimum on Sept. 17, according to new ... [read more](#) »



Atlantic Heat Constrains Arctic Sea Ice Extent

June 26, 2012 — The Arctic sea ice cover is a sensitive indicator of climate variability and change. Researchers have for the first time quantified how Atlantic heat influences the sea ice extent in the Barents Sea, ... [read more](#) »



Arctic Sea Ice Nears Minimum Extent

Sep. 14, 2011 — In the last few days, the decline in Arctic sea ice extent has slowed. New data show Arctic sea ice extent currently at the second-lowest levels in the satellite ... [read more](#) »

Thanks for the feedback! [Undo](#)

We'll use your feedback to review ads on this site.

Google

Strange & Offbeat

PLANTS & ANIMALS



A World Map of Neanderthal and Denisovan Ancestry in Modern Humans



Creation of Minimal Cell With Just the Genes Needed for Independent Life



Moving Microswimmers Using Magnetic Vortices



Modified Maggots Could Help Human Wound Healing

EARTH & CLIMATE



City Birds Are Smarter Than Country Birds



Could Ireland's Ecosystems Cope If We Introduced St. Patrick's Scalp Foes?

First Successful Extraction of Ancient DNA from a Southern African Mummy



Unique Beak Evolved With Tool Use in New Caledonian Crow

FOSSILS & RUINS

Human Ancestors Explored 'out of Africa' Despite Impaired Nasal Faculties



More Ancient Viruses Lurk in Our DNA Than We Thought



The Linguistics of Signifying Time: The Human Gesture as Clock



Solving the Mystery of the Tully Monster