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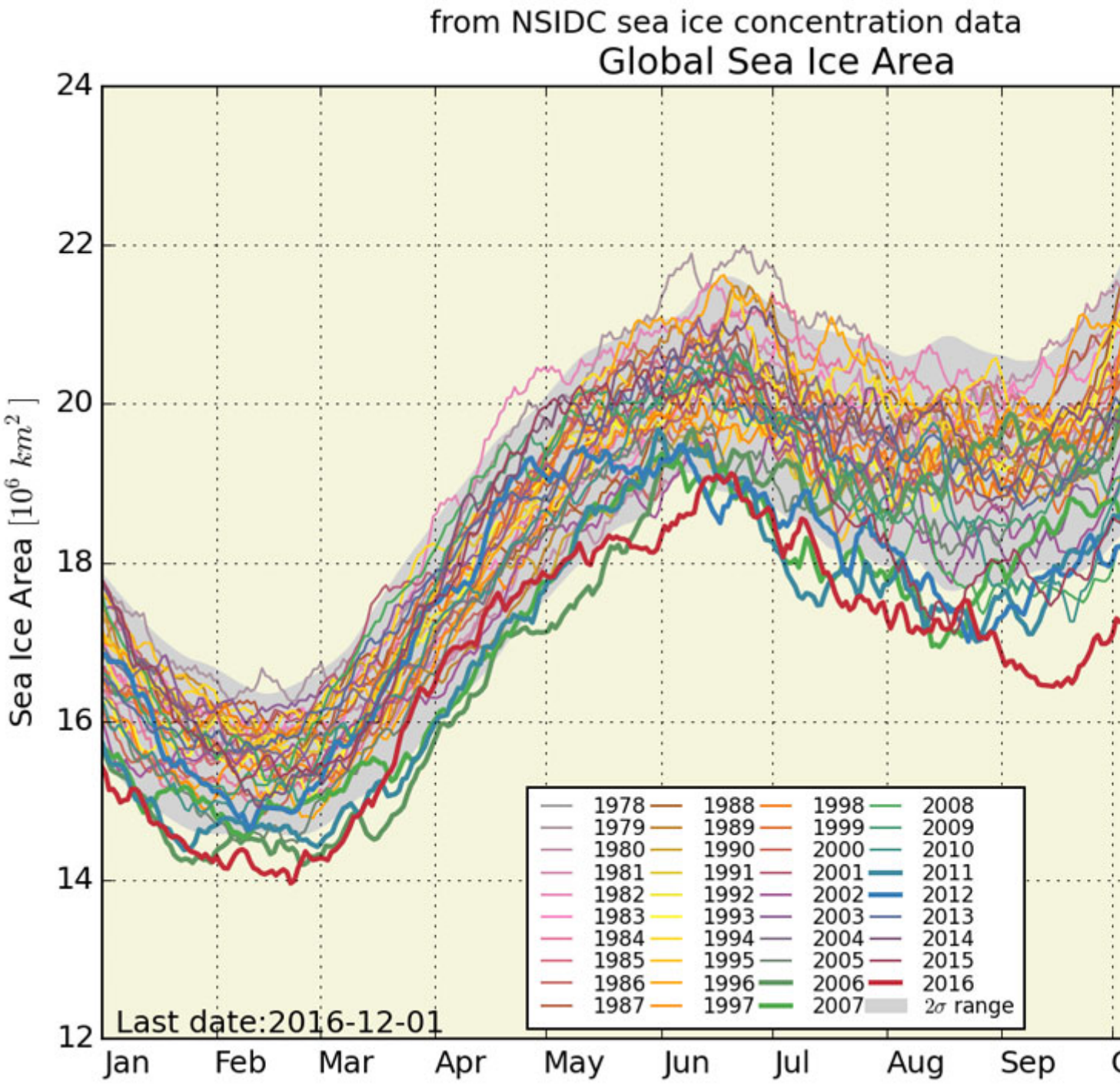
Arctic sea ice: slow growth in 2016

Submitted by Lindsay Wallace Mon, 2016-12-05 10:07

While global temperature tracking is suggesting 2016 will follow 2014 and 2015 as the warmest year on record, the effects are acute and immediate in the Canadian Arctic where climate change has already warmed more than twice the global average.

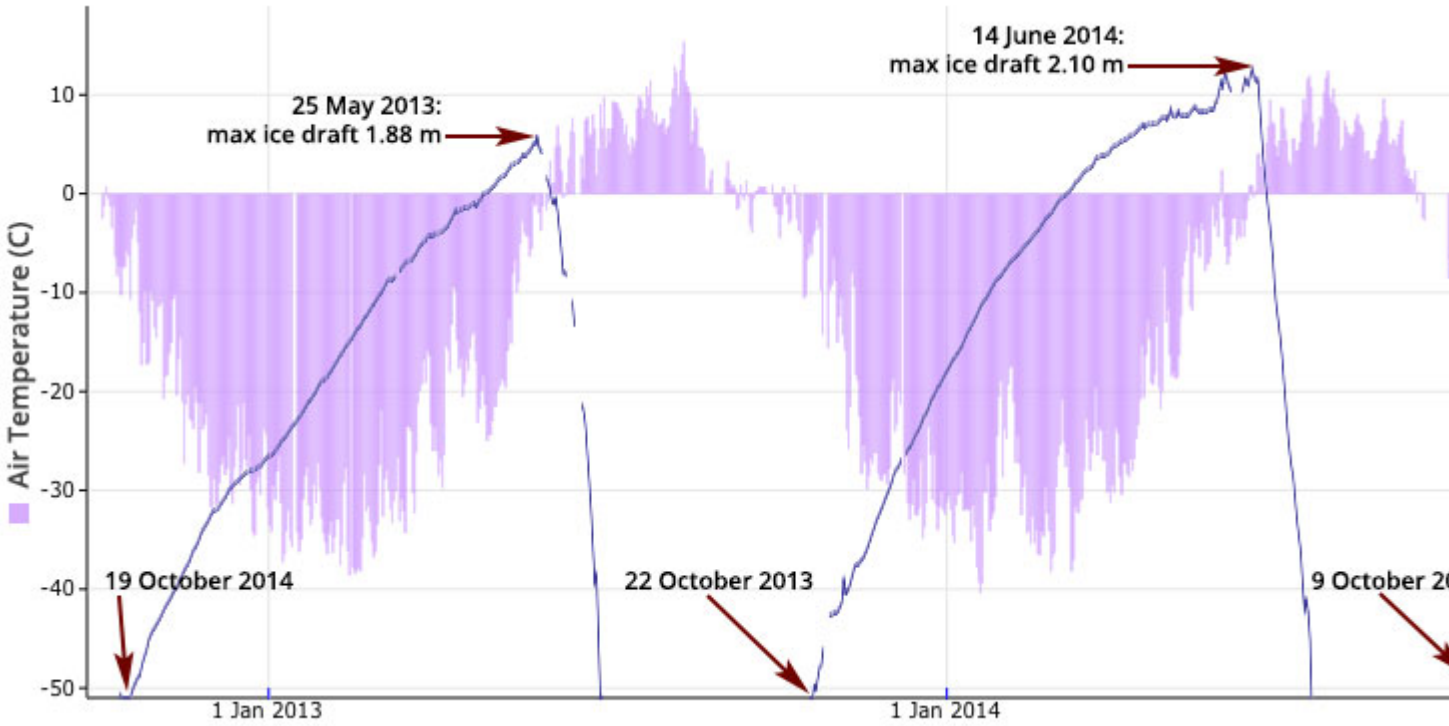
This warming is having a dramatic effect on Arctic sea ice, with reports of both low geographic coverage and low total thickness.



The latest observed global sea-ice concentration, against the historic annual cycle dating back to 1978 from the National Snow and Ice Data Center (NSIDC).

Ocean Networks Canada?s (ONC) Cambridge Bay observatory has been monitoring ocean conditions in the Canadian Arctic since 2012, and sea ice measurements also show these trends. Temperatures over the last two weeks in November were in the -5 to -10?C range, which in previous years has typically been -15 to -20?C.

While the start of sea ice growth in October was not significantly delayed, the rate of growth is very slow. Sea ice over the Cambridge Bay underwater observatory is typically more than 50 centimetres thick by early December, while this year it is only 25 centimetres.



ONC's Cambridge Bay ice draft and air temperature data show slow sea ice growth and increasing temperatures in 2016: on 4 December 2016 the air temperature was -8.4°C, compared to -22°C in 2015. On the same date this year, the ice draft was 23 centimetres, compared with 56 centimetres in 2015.

Of note is that by early November 2016, global sea ice concentration was more than 10% lower than any other year, standing clear and distinct from the trends and records from all earlier estimates.

ONC continues to monitor Arctic sea ice conditions as part of Safe Passage, a collaborative project supported by Polar Knowledge Canada. Discussion about monitoring climate change in the Arctic will continue at the ArcticNet Annual Science Meeting in Winnipeg, 5-9 December 2016.

Related links

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Cambridge Bay at the crossroads of history and climate science (2016)

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