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Canadian Arctic sheds ice chunk

A large chunk of an Arctic ice shelf has broken free of the northern Canadian coast, scientists say.

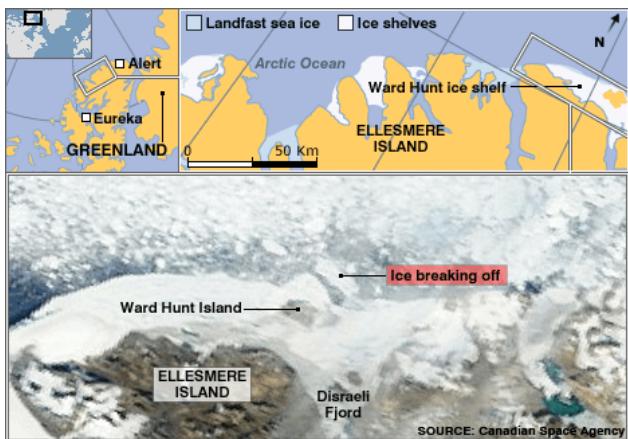
Nearly 20 sq km (eight sq miles) of ice from the Ward Hunt shelf has split away from Ellesmere Island, according to satellite pictures.

It is thought to be the biggest piece of ice shed in the region since 60 sq km of the nearby Ayles Ice Shelf broke away in 2005.

Scientists say further splitting could occur during the Arctic summer melt.



The free ice will need to be monitored in case it becomes a hazard to shipping

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Luke Copland

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The polar north is once again experiencing a rapid ice retreat this year, although many scientists doubt the record minimum extent of 4.13 million sq km (1.59 million sq miles) of sea-ice seen in 2007 will be beaten.

Nonetheless, dramatic changes are occurring in the region, affecting the ice both in the open ocean and the ice which is attached to the coast.

Researchers had predicted that the Ward Hunt Ice Shelf (WHIS) was likely to experience a major calving event of this nature. The satellite images from last week show ice breaking away in two major segments - their area totalling 20 sq km - together with some smaller fragments.

Scientists travelling with the Canadian armed forces visited the area recently and found major new fractures in the ice that stretched for more than 16km (10 miles).

Ellesmere Island was once bounded by one giant ice shelf that covered almost 10,000 sq km (3,500 sq miles).

Now this expanse of ice has retreated into a string of five, much smaller, individual shelves, which together cover just under 1,000 sq

“ The one take-home message for me here is that these ice shelves aren't re-generating **”**

Dr Derek Mueller, Trent University

km (400 sq miles). At 440 sq km (170 sq miles) in size and 40m (130ft) thick, the WHIS is the largest of the remnant shelves.

Scientists have been studying the Canadian feature because of what it can tell them about Arctic history.

Radiocarbon dating of driftwood trapped behind the shelf in Disraeli Fjord shows the shelf itself has been in place for at least 3,000 years.

Researchers believe the mechanism which has maintained its stability - fresh water coming out of Disraeli Fjord and freezing under the shelf - may have been disturbed. If that is the case, the rest of the WHIS may disappear quite rapidly, researchers say.



Zoom into the Canadian Arctic to see where the ice has broken free

The current warming being experienced in the Arctic means the conditions needed to rebuild the shelves simply does not exist.

"The one take-home message for me here is that these ice shelves aren't re-generating," explained Dr Derek Mueller, from Trent University, Ontario.

"There were, for some period of time, insipient ice shelves reforming in the form of sea-ice that just remained fast to the land for many decades; and those pieces of ice have broken up in the last eight years or so," he told BBC News.

"Those aborted attempts at re-growth suggest to me that the conditions are not right either to maintain or re-grow these ice shelves."

Loss of ice in the Arctic, and in particular the extensive sea-ice, has global implications. The "white parasol" at the top of the planet reflects energy from the Sun straight back out into space, helping to cool the Earth.

Further loss of Arctic ice will see radiation absorbed by darker seawater and snow-free land, potentially warming the Earth's climate at an even faster rate than current observational data indicates.

As with the Ayles breakout in 2005, the authorities will have to track the Ward Hunt ice carefully. Its size means it could be a hazard to shipping and offshore development in the region.

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