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Major ice-shelf loss for Canada



Ward Hunt is the largest of the remnant ice shelves

The ice shelves in Canada's High Arctic have lost a colossal area this year, scientists report.

The floating tongues of ice attached to Ellesmere Island have seen almost a quarter of their cover break away.

Researchers say reduced sea-ice conditions and warm air temperatures have assisted the break-up.

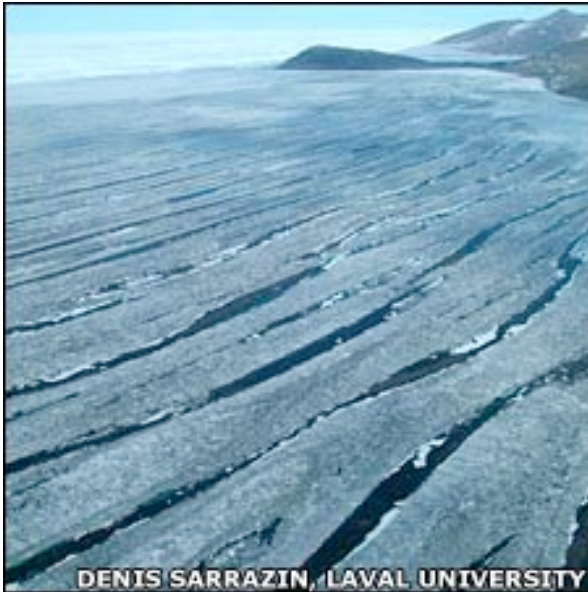
"These substantial calving events underscore the rapidity of changes taking place in the Arctic," said Trent University's Dr Derek Mueller.

A rapid ice retreat is being experienced across the Arctic again this year, affecting both the ice attached to the coast and floating in the open ocean.

The floating sea-ice, which would normally keep the shelves hemmed in, has shrunk to just under five million sq km. This is the second lowest extent recorded since the era of satellite measurement began about 30 years ago.

Scientists reported in July that substantial slabs of ice had calved from Ward Hunt Ice Shelf, the largest of the Ellesmere shelves.

Similar changes have been seen in the other four shelves, with the entire 50 sq km (20 sq miles) Markham shelf now said to be floating free in the Arctic Ocean.



"Long meltwater lakes" were imaged on the Markham shelf in 2005

The shelves themselves are merely remnants of a much larger feature that was once bounded to Ellesmere Island and covered almost 10,000 sq km (3,500 sq miles).

Over the past 100 years, this expanse of ice has retreated by 90%, and at the start of this summer season covered just under 1,000 sq km (400 sq miles).

Much of the area was lost during a warm period in the 1930s and 1940s.

Temperatures in the Arctic are now even higher than they were then, and a period of renewed ice shelf break-up has ensued since 2002.

Unlike much of the floating sea-ice which comes and goes, the shelves contain ice that is up to 4,500 years old.

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.