Arctic ice cap 'to disappear in future summers'

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In this undated image obatined from www.catlinarcticsurvey.com, British explorers Pen Hadow (R) and Ann Daniels cross a refrozen lead in the North Pole. The Arctic ice cap will disappear completely in summer months within 20 to 30 years, a polar research team said as they presented findings from an expedition led by adventurer Hadow.

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It is likely to be largely ice-free during the warmer months within a decade, the experts added.

Veteran polar explorer Hadow and two other Britons went out on the Arctic ice cap for 73 days during the northern spring, taking more than

6,000 measurements and observations of the sea ice.

The raw data they collected from March to May has been analysed, producing some stark predictions about the state of the ice cap.

"The summer ice cover will completely vanish in 20 to 30 years but in less than that it will have considerably retreated," said Professor Peter Wadhams, head of the polar ocean physics group at Britain's prestigious Cambridge University.

"In about 10 years, the Arctic ice will be considered as open sea."

Starting off from northern Canada, Hadow, Martin Hartley and Ann Daniels skied over the ice cap to measure the thickness of the remaining ice, assessing its density and the depth of overlying snow, as well as taking weather and sea temperature readings.

Across their 450-kilometre (290 mile) route, the average thickness of the ice floes was 1.8 metres (six feet), while it was 4.8 metres when incorporating the compressed ridges of ice.

"An average thickness of 1.8 metres is typical of first year ice, which is more vulnerable in the summer. And the multi-year ice is shrinking back more rapidly," said Wadhams.

"It's a concrete example of global change in action.

"With a larger part of the region now in first year ice, it is clearly more vulnerable. The area is now more likely to become open water each summer, bringing forward the potential date when the summer sea ice will be completely gone."

Doctor Martin Sommerkorn, senior climate change adviser for the

World Wide Fund for Nature's international Arctic programme, said the survey painted a sombre picture of the ice meltdown, which was happening "faster than we thought".

"Remove the Arctic ice cap and we are left with a very different and much warmer world," he said.

Loss of sea ice cover will "set in motion powerful climate feedbacks which will have an impact far beyond the Arctic itself," he added.

"This could lead to flooding affecting one quarter of the world's population, substantial increases in greenhouse gas emission from massive carbon pools and extreme global weather changes."

"Today's findings provide yet another urgent call for action to world leaders ahead of the United Nations climate summit in Copenhagen in December to rapidly and effectively curb global greenhouse gas emissions."

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