



Cambridge Society for the Application of Research

Churchill College
Storeys Way
Cambridge
CB3 0DS

Impacts of a Disappearing Arctic Sea Cover

Professor Peter Wadhams

Department of Applied Mathematics and Theoretical Physics
University of Cambridge

7.30 p.m., Monday 15th October, 2012

Wolfson Lecture Theatre, Churchill College, Storey's Way, Cambridge

The Lecture:

Professor Wadhams will explain how the sea ice cover of the Arctic Ocean has been undergoing significant changes in recent years, culminating in the virtual collapse during this past summer when its area shrank to the lowest level ever recorded.

This thinning of the ice layers in the Arctic, which began in 1950, has been monitored by various techniques, including satellites and upward-looking sonar from submarines and unmanned vehicles in the area.



The volume of this polar ice cover is now less than 30 per cent of its size since the 1980s. The reduction of the summer sea ice cover will have some advantages, such as polar navigation and oil exploration. However, its overwhelming impact is to accelerate global warming, perhaps by a large factor. This occurs because of the albedo feedback effect by which bright, reflective surface is replaced by a dark absorptive one. This in turn could lead to a potentially more disastrous effect whereby methane, a powerful greenhouse gas, would be realised in significant amounts from the seabed as offshore permafrost melts due to the warmer sea temperatures which are now made possible by the reduction of the sea ice cover.

The lecture is free to students.

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About the Speaker:

In a career that has spanned more than four decades, Professor Peter Wadhams at the University of Cambridge has become one of the world's foremost experts on the sea ice in the Polar Regions.

Professor Wadhams is currently Head of the Ocean Physics within the Department of Applied Mathematics and Theoretical Physics at the University of Cambridge. He began his career as a research scientist with the Bedford Institute of Oceanography and National Research Council in Canada. Since 1976 he has served in a variety of roles with the Scott Polar Research Institute at the University. He has also held senior appointments with the Laboratoire d'Océanographie de Villefranche at the Université Pierre et Marie Curie, the U.S. Naval Postgraduate School in California, the Scripps Institution of Oceanography in California, the National Institute of Polar Research in Japan and the Dunstaffnage Marine Laboratory in Scotland.

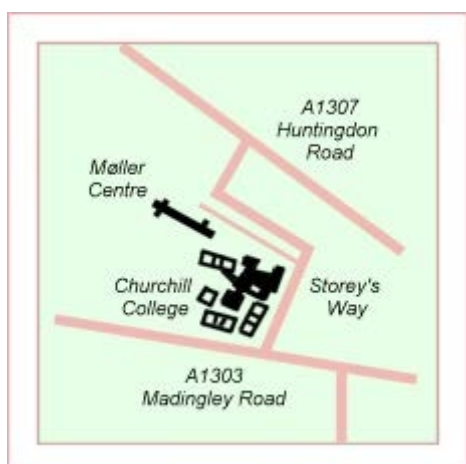
Professor Wadhams earned his BA (Hons) in Physics from Churchill College, Cambridge in 1969, and his PhD from the Scott Polar Research Institute in Cambridge in 1974.

Additional background:

Peter Wadhams gave an excellent and engaging lecture to the CSAR some ten years ago. At the time, he predicted that "by 2025, it will be possible to sail from London to Tokyo across the North Pole". I presume he was referring to a summer voyage, but I even so, I entitled the lecture 'Cambridge by the Sea?'

I understand that he has now refined his models; it's not 2025 anymore; come to the lecture and discover his latest prediction!

(Dr Richard Freeman, former Organising Secretary)



CSAR lectures are open to all; members are admitted free, and non-members are asked to make a nominal contribution of £3.00.

Coffee and biscuits are available in the Wolfson Foyer from around 7pm.

For further directions see

www.chu.cam.ac.uk/about/visitors/directions.php