

Frozen fjords found under Antarctic ice

June 6 2011

Scientists have uncovered a landscape of deep fjords in Antarctica, carved by millions of years of ice movement.

University of Edinburgh researchers say the discovery, in a part of East Antarctica roughly the size of France, gives valuable insight into how the ice sheet formed.

The global team of researchers say the find will also improve their understanding of how ice in the region might melt if [ocean temperatures](#) rise.

The findings will also help reveal the possible impact on sea levels.

Scientists say that between 34 and 15 [million years](#) ago, as temperatures dropped, ice formed inland and moved slowly towards the sea before retreating inland again.

Over millions of years the process was repeated, carving fjords and causing [sea level](#) changes of up to 20 meters.

Researchers from the Universities of Edinburgh and Texas, together with the Australian Antarctic Division and the Antarctic Climate and Ecosystems Cooperative Research Center, focused their studies on an ice-covered lowland in East Antarctica.

The area, known as the Aurora Subglacial Basin, has ice is up to 4.5 kilometers thick.

It is vulnerable to [climate change](#), because any rise in [sea temperatures](#) could cause low-lying ice to melt.

The study supported by the Natural Environment Research Council, was published in the journal *Nature*.

This latest finding forms part of a wider initiative to map Antarctica's landscape.

Scientists are mapping the land underneath the ice using radar data acquired by flying across the continent in a refurbished 1942 DC-3 plane.

"Antarctica is one of the few remaining unexplored places on Earth and there is a great deal we can learn from it – not only about how the continent was shaped by the climates of the past, but also how it might respond to changing climates of the future," said Professor Martin Siegert, School of GeoSciences.

Provided by University of Edinburgh

Citation: Frozen fjords found under Antarctic ice (2011, June 6) retrieved 22 September 2024 from <https://phys.org/news/2011-06-frozen-fjords-antarctic-ice.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.