



Arctic could go ice-free within decades: Study

BY MARGARET MUNRO, CANWEST NEWS SERVICE APRIL 2, 2009



The loss of summer ice could happen much sooner than previously estimated, according to the study's findings, to be published Friday in the *Geophysical Research Letters*. The American researchers echo Canadian scientists, who also have been predicting ice-free Arctic summers, perhaps as early as 2013.

Photograph by: Nathan VanderKlippe, Canwest News Service

The hot topic of when the planet will lose its icy cap will take another twist Friday, with the release of a study predicting the Arctic to be on a "fast track" to be nearly ice-free in 30 years.

The loss of summer ice could happen much sooner than previously estimated, according to the study's findings, to be published Friday in the *Geophysical Research Letters*. The American researchers echo Canadian scientists, who also have been predicting ice-free Arctic summers, perhaps as early as 2013.

Open water in the Arctic Ocean could be a boon for shipping and companies anxious to tap into the energy and mineral riches under the ice, but it would also create upheaval in an ecosystem that northern people depend on, and impact weather patterns far beyond the Arctic.

There is evidence the Arctic Ocean has had ice for a million years, though no one knows with certainty the last time it melted away.

The 2007 United Nations Intergovernmental Panel on Climate Change used 23 climate models to assess the impact of global warming, and projected that Arctic summer sea ice likely would persist until the end of this century.

The study reassessed the situation in light of the dramatic Arctic melting in the summers of 2007 and 2008, when the ice retreated to record lows. The six computerized climate models used for the analysis best match what actually has happened in recent years and reflects the difference between summer and winter ice packs, the researchers say.

"If a model can't do today's conditions well, how can you trust its future predictions?" asks Muyin Wang of the University of Washington, who co-authored the report with James Overland of the U.S. National

Oceanographic and Atmospheric Administration.

The 2007 and 2008 record ice losses "are indeed evidence that the Arctic may be on a fast track for increased September sea-ice reduction over the next 30 years," Wang and Overland conclude.

Once the ice at the end of summer drops to 4.6 million square kilometres — it hit 4.3 million square kilometres in 2007 and 4.7 million in 2008 — all six models show rapid sea-ice declines, the researchers report. Averaged together, the models point to a nearly ice-free Arctic in 32 years, with some of the models suggesting it could be happen in just 11 years.

"The uncertainty in future timing for a September sea ice-free Arctic is strongly influenced by the chaotic nature of natural variability," the study says.

Overland says the changes unfolding in the Arctic are consistent with increased global greenhouse gas emissions, wind-driven variability in sea-ice circulation and a sequence of warm years beginning in the late 1990s.

"It's a combination of natural variability, along with warmer air and sea conditions caused by increased greenhouse gases," he said in a statement.

The researchers don't expect the Arctic to lose all its ice. An icy fringe is likely to persist along Canada's most northern Arctic islands and Greenland, where fierce winds sweep across the Arctic Ocean forcing ice to pile up.

Canadian researchers have been watching the meltdown in the Arctic with awe, and have said they wouldn't be surprised to soon see ice-free summers.

Warwick Vincent, director of the Centre for Northern Studies at the University of Laval in Quebec City, recently suggested the summer ice might be gone by 2013. While northern people will be most affected, the impact will extend far beyond the Arctic as the ice cover affects the jet stream and global climate circulation patterns.

"The effect of the missing ice, it will be felt all over the globe," according to David Barber at the University of Manitoba, who last fall said the Arctic appears to be on a trajectory towards an ice-free summer between 2013 and 2030.

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