

Sea ice melting as Arctic temperature rises

October 21 2010, By RANDOLPH E. SCHMID , AP Science Writer

(AP) -- The temperature is rising again in the Arctic, with the sea ice extent dropping to one of the lowest levels on record, climate scientists reported Thursday.

The new [Arctic](#) Report Card "tells a story of widespread, continued and even dramatic effects of a warming Arctic," said Jackie Richter-Menge of the Cold Regions Research and Engineering Laboratory, a U.S. Army Corps of Engineers facility in Hanover, N.H.

"This isn't just a climatological effect. It impacts the people that live there," she added.

Atmospheric scientists concerned about global warming focus on the Arctic because that is a region where the effects are expected to be felt first, and that has been the case in recent years.

There was a slowdown in Arctic warming in 2009, but in the first half of 2010 warming has been near a record pace, with monthly readings over 4 degrees Celsius (7.2 Fahrenheit) above normal in northern Canada, according to the report card released Thursday.

Highlighting the immediate consequences of the warming, researchers said last winter's massive snowstorms that struck the Northeast and Mid-Atlantic states were tied to higher Arctic temperatures.

"Normally the cold air is bottled up in the Arctic," said Jim Overland of the National Oceanic and Atmospheric Administration's Pacific Marine

Environmental Laboratory in Seattle. But last December and February, winds that normally blow west to east across the Arctic were instead bringing the colder air south to the Mid-Atlantic, he said.

"As we lose more sea ice it's a paradox that warming in the atmosphere can create more of these [winter storms](#)," Overland said at a news briefing.

There is a powerful connection between ice cover and air temperatures, Richter-Menge explained. When temperatures warm, ice melts. When reflective ice melts it reveals darker surfaces underneath, which absorbs more heat. That, in turn, causes more melting "and on the cycle goes," she said.

In September the [Arctic sea ice](#) extent was the third smallest in the last 30 years, added Don Perovich of the Army laboratory. He said the three smallest ice covers have occurred in the last four years.

Other findings included:

- Winter snow accumulation on land in the Arctic was the lowest since records began in 1966.
- Glaciers and ice caps in Arctic Canada are continuing to lose mass at a rate that has been increasing since 1987, reflecting a trend toward warmer summer air temperatures and longer melt seasons.
- The temperature in the permafrost is rising in Alaska, northwest Canada, Siberia and Northern Europe.
- Greenland in 2010 is marked by record-setting high air temperatures, ice loss through melting, and marine-terminating glacier area loss. The largest recorded glacier area loss observed in Greenland occurred this

summer at Petermann Glacier, where a piece of ice several times larger than Manhattan Island broke away.

The report card, prepared by 69 researchers in eight countries, is issued annually by the U.S. National Oceanic and Atmospheric Administration.

In addition to Richter-Menge, Overland and Perovich, lead researchers included Mary-Louise Timmermans at Yale University; Jason Box, Ohio State University; Mike Gill, Environment Canada; Martin Sharp, University of Alberta, Canada; Chris Derksen, Environment; and D.A. Walker, Vladimir Romanovsky and Uma Bhatt, University of Alaska-Fairbanks.

More information: <http://www.arctic.noaa.gov/reportcard> .
<http://www.arctic.noaa.gov/detect/>

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