

More rain, less snow leads to faster Arctic ice melt

4 July 2011

Rising air temperatures in the Arctic region have led to an increase in rainfall and a decrease in snowfall, making the sea ice more susceptible to melting, a new study has revealed.

Provided by University of Melbourne

The research was presented today by Dr James Screen from the University of Melbourne at the XXV International Union of Geodesy and [Geophysics](#) General Assembly in Melbourne.

The [Arctic region](#) is warming more rapidly than anywhere else on Earth.

Dr Screen of the University's School of Earth Sciences, who led the research, said due to warming temperatures, on more days of the year and in more parts of the polar region, temperatures are becoming too warm for protective snow to form.

"As a result of this temperature shift, we estimate that there has been a 40 percent decrease in summer snowfall over the last 20 years."

"The reductions in [snowfall](#) in the summer months (when there is still typically significant snow in Arctic regions) have knock-on effects for the [sea ice](#) - the ice floating on top of the Arctic Ocean," he said.

"Snow is highly reflective and bounces up to 85 percent of the incoming sunlight back into space. Snow on top of ice effectively acts as a sunscreen protecting the ice from the power of the sun rays."

"As the snow cover has decreased, more sea ice has become exposed to the sunlight, increasing the melting of the ice. Measurements show that the sea ice has been getting thinner and less extensive," he said.

The study was conducted with Professor Ian Simmonds of the University's School of Earth Sciences was published in the prestigious international journal *Climate Dynamics*.

APA citation: More rain, less snow leads to faster Arctic ice melt (2011, July 4) retrieved 23 October 2019 from <https://phys.org/news/2011-07-faster-arctic-ice.html>

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