

Declining sea ice to lead to cloudier Arctic: study

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Arctic sea ice has been declining over the past several decades as global climate has warmed. In fact, sea ice has declined more quickly than many models predicted, indicating that climate models may not be correctly representing some processes controlling sea ice.

One source of uncertainty in models is feedback from cloud cover. Sea ice can affect cloud cover, as melting sea ice and increased evaporation from the ocean surface can lead to more cloud formation. In the Arctic, clouds have an overall warming effect on the surface, so greater cloudiness in this region could lead to even more sea-ice melt.

Liu et al. analyzed [satellite observations](#) of cloud cover and sea ice from 2000 to 2010 to evaluate feedbacks between sea ice and cloud cover. They find that a 1 percent decrease in sea ice concentration leads to a 0.36-0.47 percent increase in cloud cover, and that 22-34 percent of variance in cloud cover can be explained by changes in sea ice. So as sea ice declines, the researchers predict that the Arctic will become cloudier.

More information: A cloudier Arctic expected with diminishing sea ice, *Geophysical Research Letters*, [doi:10.1029/2012GL051251](https://doi.org/10.1029/2012GL051251) , 2012
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