
Arctic Ice Pack More Sensitive to Summer Melting Than to Winter Cooling

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The study, conducted by scientists from University College London and the University of Leeds, found that the increase in sea ice in the Northern Hemisphere in the fall of 2013 followed an “unusually cool summer.”

Researchers said this could indicate that the Arctic ice pack “is more resilient than previously thought.”

Satellite images have shown in recent years that the extent of sea ice in the region has diminished by 40 percent since the 1970s.

The authors, however, point out that measuring the extent of sea ice “is easier than measuring its thickness,” which is required to estimate the volume.

A reduction in the area covered by sea ice does not translate into a proportional reduction in volume, said the team of experts, led by Rachel Tilling of the Center for Polar Observation and Modeling at UCL’s Earth and Planetary Sciences.

The study, funded by the Natural Environment Research Council, or NERC, used 88 million measurements of sea ice thickness recorded by the European Space Agency’s CryoSat-2 mission between 2010 and 2014.

Researchers detected “significant variations” in the volume of sea ice in the Arctic during the fall, with a 14 percent reduction between 2010 and 2012, followed by “substantial increases”

since then.

Data show that the volume of ice jumped by 41 percent in 2013, relative to the previous year, when the summer was 5 percent cooler than the prior year, the highest growth in five years until the fall of 2014.

The authors concluded that the unusually cool summer of 2013, when temperatures dropped to levels similar to the late 1900s, played a key role in increasing the volume of sea ice.

During the summer of 2014, ice melting happened mostly in a region northeast of Greenland.
