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From: [NASA/Goddard Space Flight Center via ScienceDaily](#)
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NASA science flights target melting Arctic Sea ice

This summer, with sea ice across the Arctic Ocean shrinking to below-average levels, a NASA airborne survey of polar ice just completed its first flights. Its target: aquamarine pools of melt water on the ice surface that may be accelerating the overall sea ice retreat.

NASA's Operation IceBridge completed the first research flight of its new 2016 Arctic summer campaign on July 13. The science flights, which continue through July 25, are collecting data on sea ice in a year following a record-warm winter in the Arctic.

The summer flights will map the extent, frequency and depth of melt ponds, the pools of melt water that form on sea ice during spring and summer. Recent studies have found that the formation of melt ponds early in the summer is a good predictor of the sea ice yearly minimum extent in September: if there are more ponds on the ice earlier in the melt season, they reduce the ability of sea ice to reflect solar radiation, which leads to more melt.

"Although there have been previous airborne campaigns in the Arctic, no one has ever mapped the large-scale depth of melt ponds on sea ice using remote sensing data," said Nathan Kurtz, IceBridge's project scientist and a sea ice researcher at NASA's Goddard Space Flight Center in Greenbelt, Maryland. "The information we'll collect is going to show how much water is retained in melt ponds and what kind of topography is needed on the sea ice to constrain them, which will help improve melt pond models."

This short flight campaign is operating from Barrow, Alaska. The flights are low at an altitude of 1500 feet (450 meters) aboard an HU-25C Guardian Falcon aircraft from NASA's Langley Research Center in Hampton, Virginia. The plane carries three instruments that measure changes in the ice elevation and surface temperatures and create color maps of sea ice.

Read more: [ScienceDaily](#)

Image: The HU-25C Guardian Falcon aircraft that Operation IceBridge is using through its Barrow campaign, being tested at NASA's Langley Research Center in Hampton, Virginia

Credits: [NASA/Operation IceBridge](#)

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