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PRESS RELEASE

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Arctic Sea Ice at Minimum Extent

22SEP2021, Suitland, MD — The U.S. National Ice Center has determined that the 2021 minimum Arctic sea ice extent occurred on 12 September 2021 with an area of 5.01 million square km based on analysis from the Interactive Multi-Sensor Snow and Ice Mapping System (IMS).

The IMS is a binary analysis of ice and snow cover over the Northern Hemisphere. This year's analysis indicated a minimum 3-day average of 5.01 million square kilometers recorded on 11-13 September. USNIC uses this 3-day running mean to calculate ice extent to reduce subjectivity and variability in the determination of ice extent while providing a clear trend line. This year's minimum is the third largest recorded since 2006 when this statistic was first tracked, and is approximately 1.3 million square kilometers greater than last year's minimum.

The National Snow and Ice Data Center (NSIDC), for comparison, tentatively announced on 22 September that the Arctic minimum had occurred on 16 September at 4.72 million square kilometers. This is comparable to USNIC's findings. The differences in the two datasets are due to the data sources used to derive sea ice extent. NSIDC uses a threshold of 15% ice coverage based on passive microwave satellite data. USNIC's IMS uses a variety of different satellite observations which are interpreted by an analyst to determine the presence of ice at a 1km resolution.



Figure 1: Minimum sea ice extent for 11-13 September as analyzed by USNIC's IMS. The red dashed line shows the 1981-2010 median extent for 12 September as calculated by NSIDC.

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The U.S. National Ice Center is a multi-agency center operated by the Navy, NOAA, and Coast Guard and provides global to tactical scale ice and snow products, ice forecasting, and related environmental intelligence services for the United States government.