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Arctic Sea Ice at Minimum Extent

04OCT2019, Suitland, MD — U.S. National Ice Center (USNIC) determined the 2019 Arctic sea ice extent minimum, shown in Figure 1, was reached on September 17, 2019.

The Interactive Multi-Sensor Snow and Ice Mapping System (IMS) desk used a threshold of 40% ice coverage at 4 km resolution in its trend analysis. This year’s analysis indicated a minimum 3-day average of 3.916 million square kilometers recorded on 16 September through September 18. USNIC uses this 3-day running mean to calculate ice extent, a method used to reduce subjectivity and variability in the determination of ice extent while providing a clear trend line. This year’s minimum is the second lowest recorded since the 4km analysis began in 2004, and is approximately 556,000 square kilometers less than last year.

The National Snow and Ice Data Center (NSIDC), in Boulder, Colorado, for comparison, tentatively announced on 23 September that the Arctic sea ice minimum had occurred on 18 September at 4.15 million square kilometers. The difference between our IMS calculated extent and that reached by our partners at NSIDC is primarily due to the differences in threshold values in determining whether a particular data cell is considered to be ‘ice covered’ or ‘not ice covered.’ NSIDC uses a threshold of 15% whereas USNIC uses a threshold of 40%. e.g. a cell that has an ice concentration of greater than 40% is considered ice covered by USNIC.
To access daily products, weekly products, archival data and much more of USNIC data in various formats, visit the USNIC webpage at: http://www.natice.noaa.gov/Main_Products.htm

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The U.S. National Ice Center is a tri-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.