

NOAA releases annual Arctic report card

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The National Oceanic and Atmospheric Administration (NOAA) released its annual Arctic report card on December 17, which analyzes climatic trends in the region. The report, which is divided into seven topics including sea ice and snow cover extent, tundra conditions, and air and sea surface temperatures, highlights warming trends and their ripple effects in the Arctic environment. For example, record low sea ice cover has allowed solar radiation to penetrate the upper ocean, encouraging primary production and warming the sea surface. The report also notes that a sinuous jet stream in early 2014 was responsible for unusually warm temperatures in Alaska and frigid weather in eastern North America; however, scientists were hesitant to link the jet stream conditions with declines in Arctic sea ice.

Changes in the Arctic climate have wide-reaching impacts: melting of the Greenland continental ice sheet contributes to global sea level rise, while decreases in sea ice could open the Arctic to shipping and offshore drilling. Permafrost also stores significant amounts of methane and carbon dioxide, which are released as it melts. Because of the global nature of these impacts, many of the report's authors called for increased research funding to allow further Arctic observations and analysis.

Sources: E&E News, National Oceanic and Atmospheric Administration
