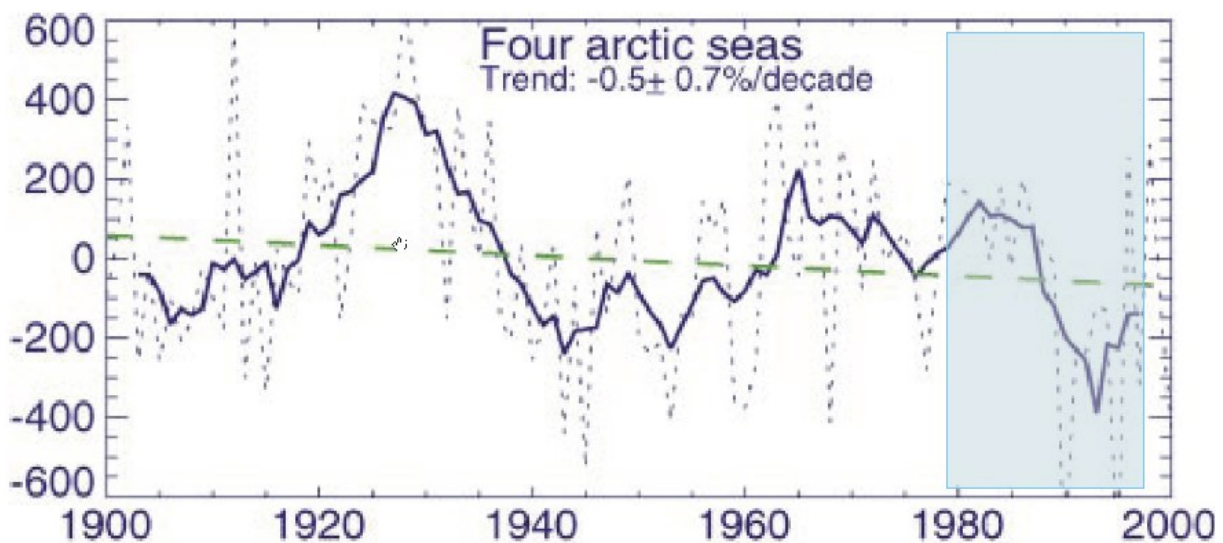


Sammanfattning av den historiska isutbredningen i Arktis

Så här ser det ut med den historiska isutbredningen i Arktis: Observationerna visar stora variationer på decennieskalan med en svagt negativ trend ($<1^\circ$ på ett sekels sikt). Det är viktigt att påpeka att minskningen av isutbredningen ser ut att ha påbörjats redan i mitten på 1800-talet.

Från www.climate4you.com :

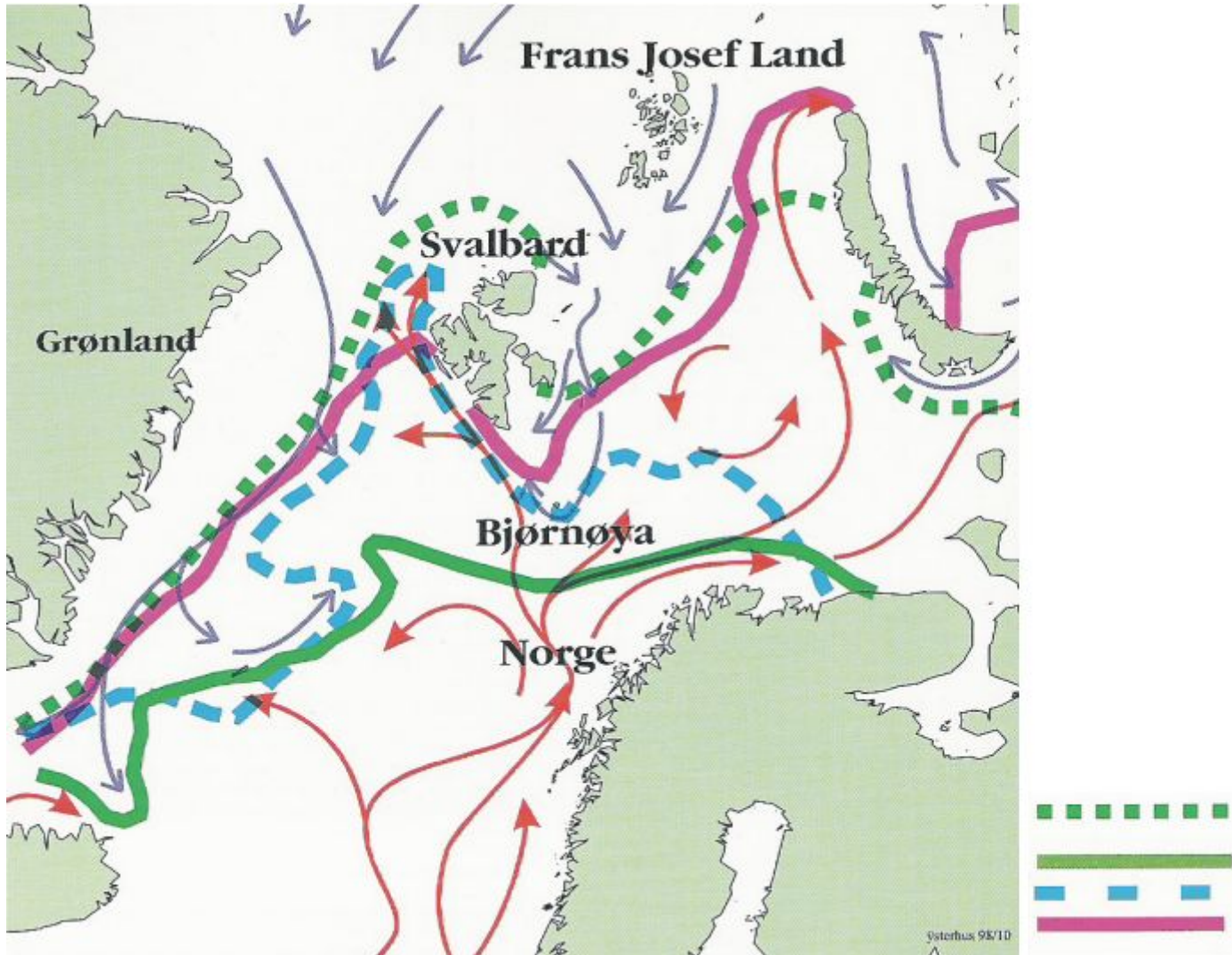


Time series showing the August ice-extent anomalies (x 1000 km²) in the Arctic Ocean along the coast of Russia, Siberia and Alaska: The Kara Sea, the Laptev Sea, the East Siberian Sea, and Chuckchi Sea (Polyakov et al. 2003). The composite record show large sea ice variations around a small negative trend since 1900, although the trend from a statistical point of view is not significant (Polyakov et al. 2003). The blue area to the right shows the time extent of the satellite-era shown in the figure higher up in this paragraph.

For sea ice in the Nordic Seas the Norwegian scientist Torgny Vinje ([Vinje 2001](#)) has done the painstaking work of collecting observations made by ships since 1864. In the Nordic Seas the maximum extent of ice (April, see diagram above) has decreased around 33% since 1864, demonstrating that the reduction is not a new phenomena, but began long ago. Nearly half the observed reduction actually took place between 1860 and 1990 ([Vinje 2001](#)). While the mean annual reduction of the April ice extent has been decelerating by a factor of 3 between 1880 and 1980, the mean annual reduction of the minimum (August) ice extent is proceeding linearly ([Vinje 2001](#)).

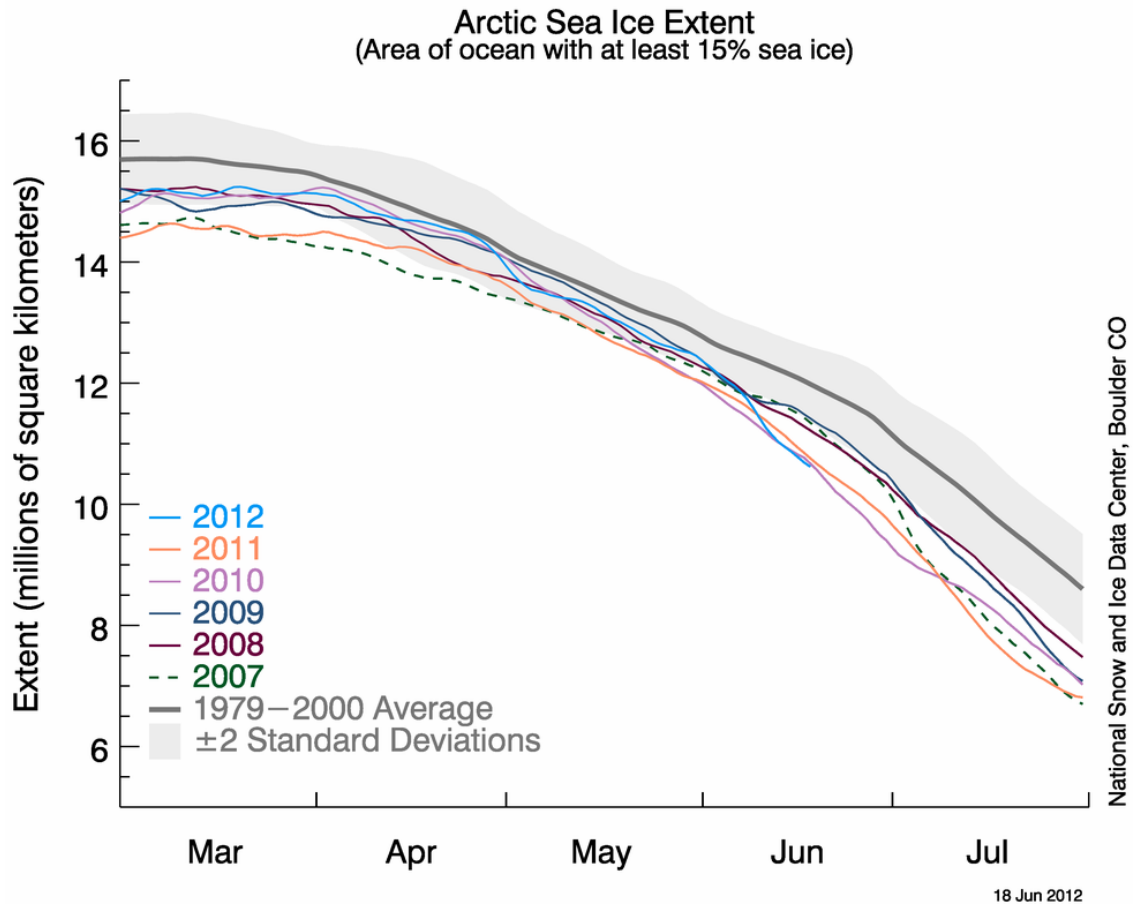
The map below show maximum (April) sea ice extension in the Atlantic sector of the Arctic, according to the sea ice database established at the [Norwegian Polar Institute](#) by Torgny Vinje.

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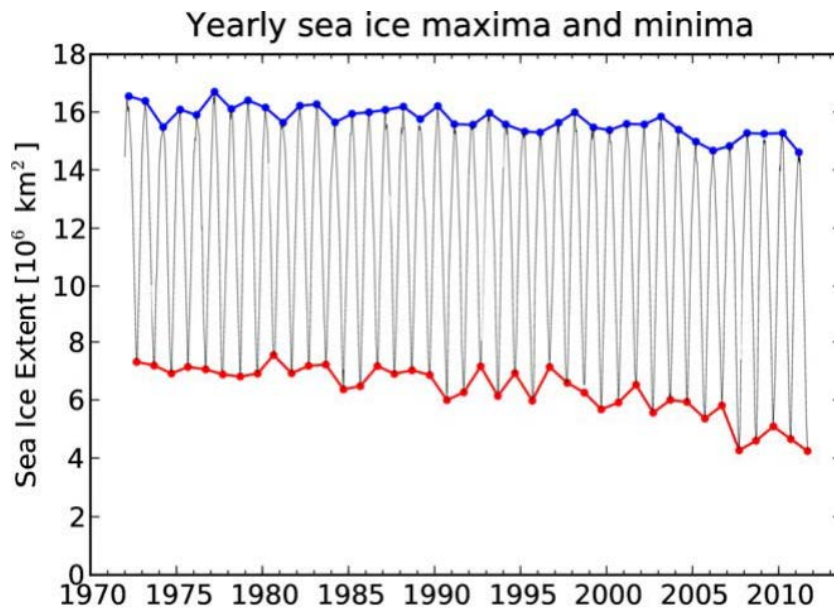


Map showing maximum (April) sea ice extension in the Atlantic sector of the Arctic ([Norwegian Polar Institute 2000](#)). The map is based on a database on sea ice extension in the area shown during the past 400 years, to a high degree based on written records found in ships logbooks.

Isutbredningen ser ut att på kort sikt ha stabiliserats, 2011 var utbredningen inom felmarginalen den samma som 2007. 2012 ligger hittills i nivå med eller något över 2011.



Från <http://www.iup.uni-bremen.de:8084/amsr/> :



Another important aspect of time series analysis is that it is essential to consider consistent data. Here, this means that all data need to be derived using the same method. But even then, because of the inherent uncertainty, there may be slight differences in the results. The sea ice minimum 2011 is such a case. University of Bremen find the minimum 2011 about 1% lower than that of 2007. But finding the 2011 minimum with another sensor and retrieval method slightly higher than that of 2007 is just within the statistical variation.