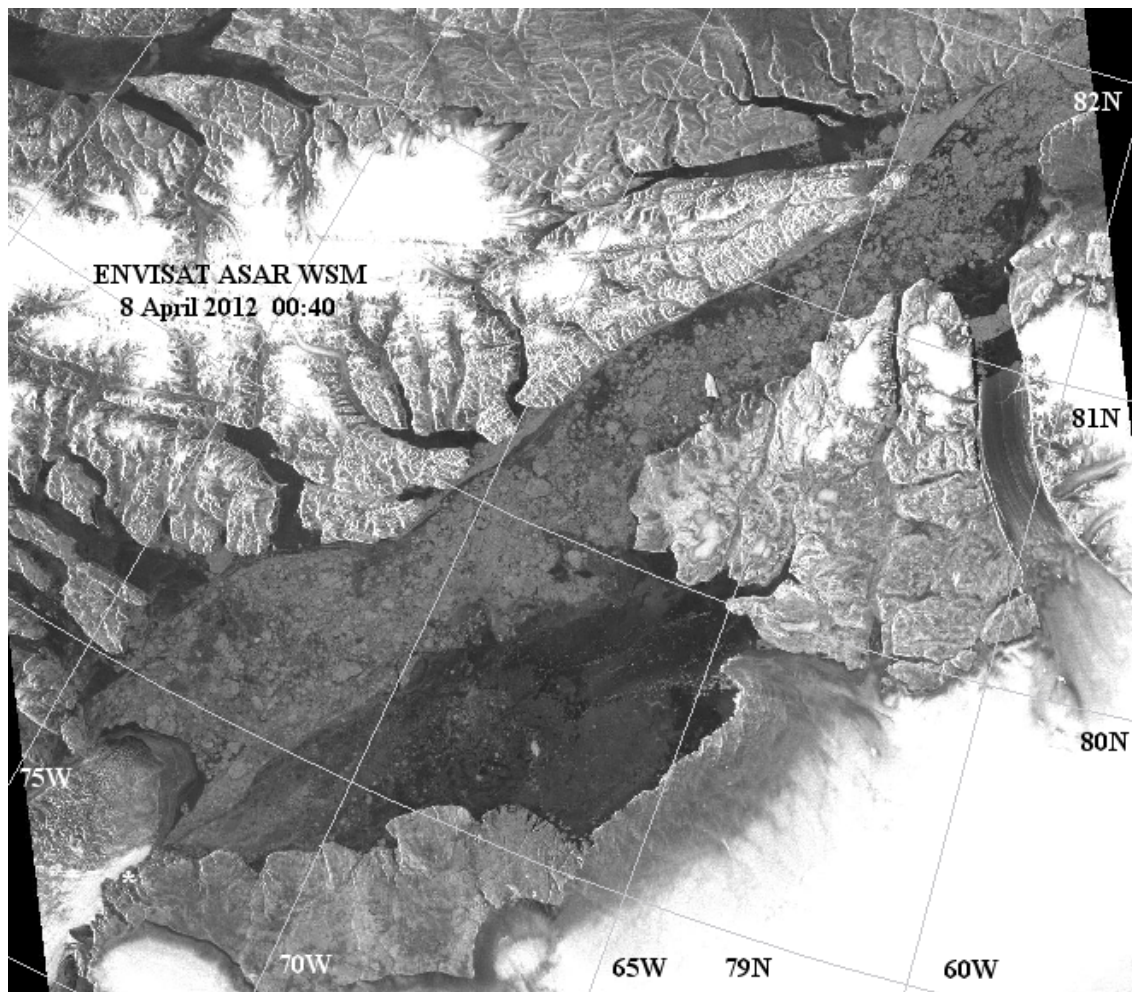


2012 Regional Sea Ice Outlook - Canadian Arctic Archipelago and Nares Strait
June 2012 Report, Based on May Data

Preben Gudmandsen

Danish National Space Institute Technical

University of Denmark



This radar image shows the lower two-third of the Nares Strait between Ellesmere Island and Greenland, from the Hall Basin over the Kennedy Channel and the Kane Basin to the Smith Sound in south. It is a 'historical image' in the way that it is the last acquisition of the region before the ESA Envisat ceased operation on 8 April 2012. The barrier that formed by 4 December 2011 in the southwestern part of the Kane Basin stopped the flow of multiyear ice from the Lincoln Sea in the north from day Number One. Occasional observations since then have shown no movements of the ice canopy all through the Nares Strait and the Lincoln Sea up to the shear zone boundary to the Arctic Ocean (around 83°N).

The Automatic Weather Station on Littleton Island (marked with an asterisk in the lower left corner) showed monthly average temperatures ranging from -22.9°C to -26.5°C from December 2011 to March 2012 increasing to -16.6°C and -6.9°C in April and May 2012. At these low temperatures over many months the thickness and the strength of the floes has increased so the barrier in the Kane Basin may resist the forthcoming melt with a break down likely to occur by mid-July. With an ice canopy solidly frozen from shore to shore through the Strait there is a possibility of formation of other barriers at places that will prevent the ice from moving out of the Lincoln Sea for several weeks.

(At the time of acquisition of the radar image the air temperature measured at Littleton Island was -9.6°C and appreciable amounts of new ice being formed in the polynya south of the barrier drifting away subject to the strong northern wind - judging from the roughened open water surface on the Greenland side of the Smith Sound).