

Nares Strait

Generally, an icebridge forms in the southern part of the Nares Strait blocking for transport of sea ice from the Lincoln Sea down to the Baffin Bay. This happened also during the past winter in early December 2015, nearly at the 'usual' position with a shape approaching a standard icebridge, see the Sentinel1A radar scene, Figure 1. The block of ice south of the icebridge is moving southwards subject to the prevailing south-going current. .

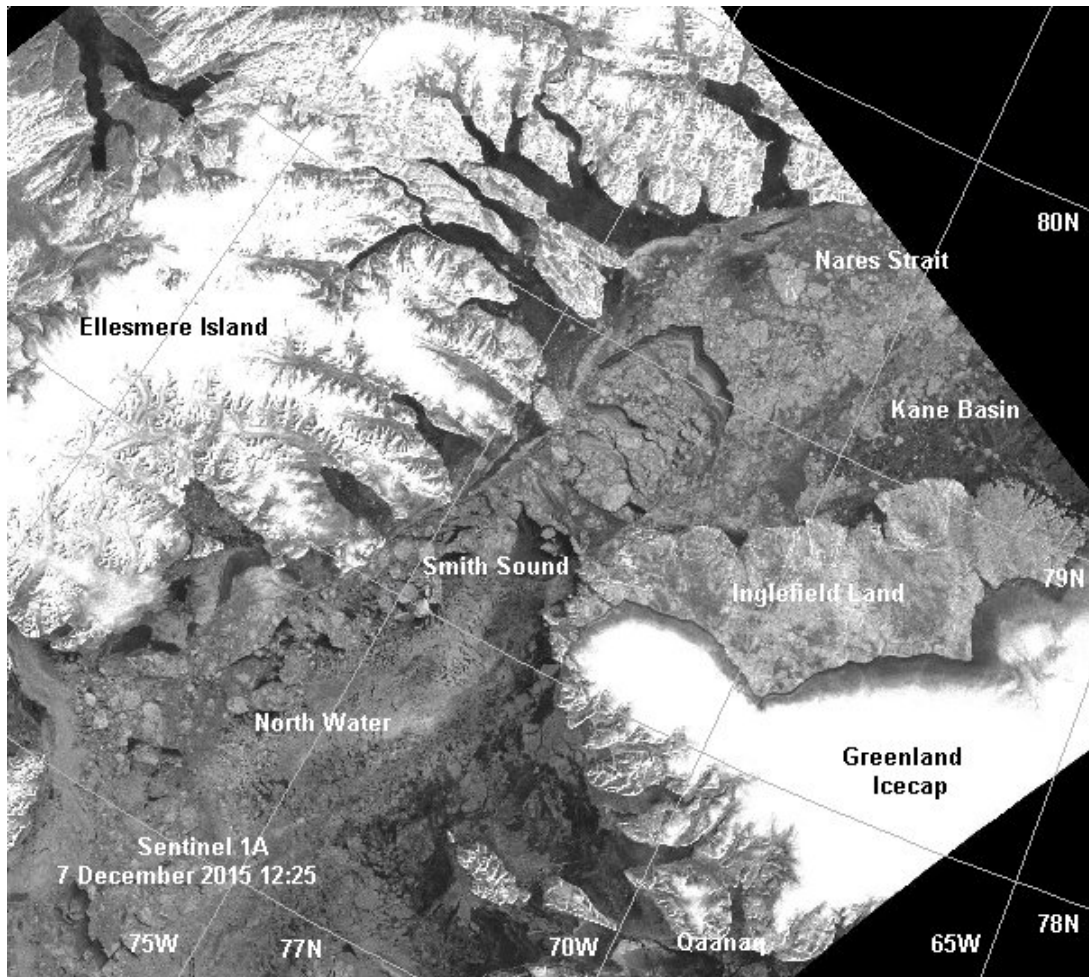


Figure 1

The stagnant sea ice north of the icebridge all along the Strait and the inner part of the Lincoln Sea does not move being subject to the prevailing low temperatures that during 'normal' winters could reach monthly average temperatures of -30°C that strengthen the canopy of new and multiyear ice present.

However, recordings made on Hans Island in the center of the Strait showed that average air temperatures during the winter months December 2015 to May 2016 were higher than 'normal' by 4.6°C . Based on observations during the previous ten years we estimated therefore that a break-

down of the icebridge would occur earlier than previously, i.e. during the first two weeks of June. True enough, we observed the beginning of a break-down by 6 June with floes moving southwards through the Smith Sound into the North Water. It was therefore surprising that the break-down did not continue with the icebridge keeping its shape until the end of June. Air temperatures during June were all positive, the average temperature being 2.5°C so we observe that the stagnant ice canopy begins melting all along the Strait creating local leads. We therefore expect that ice transport though the Strait will begin by mid-July including the break-down of the icebridge. Figure 2 shows a mosaic of MODIS observations with the icebridge and patches of open waters. Hans Island is in the center of the Kennedy Channel with a southward-going lead reaching Franklin Island.

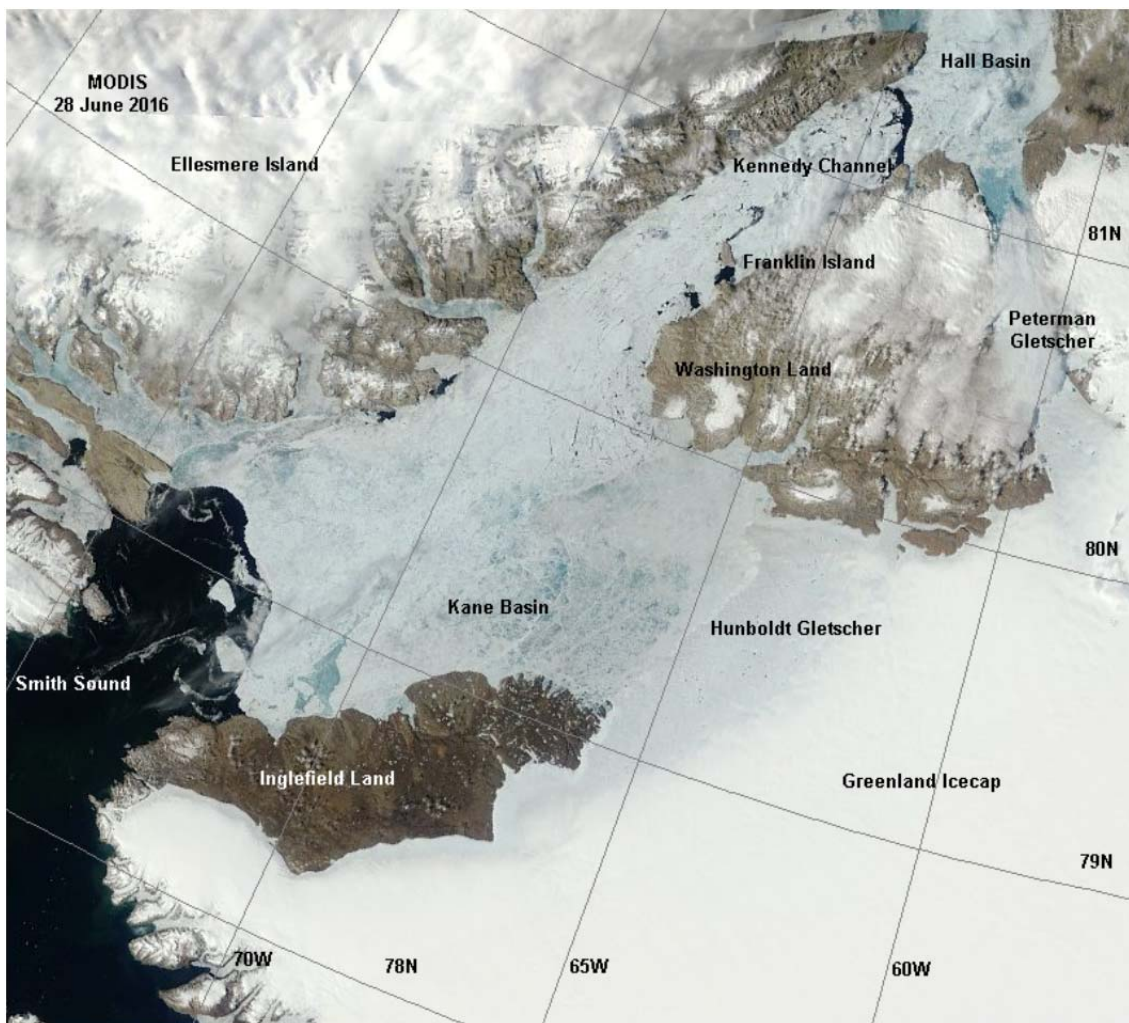


Figure 2

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