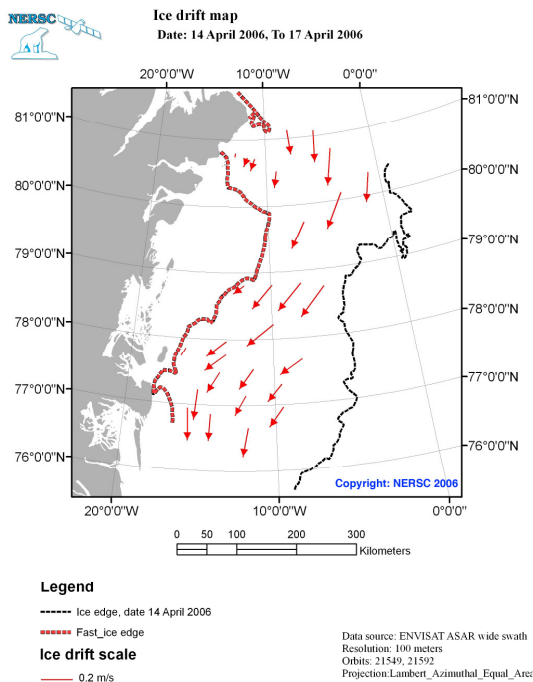


# Title: Ice drift and area flux in the Fram Strait from ENVISAT ASAR data

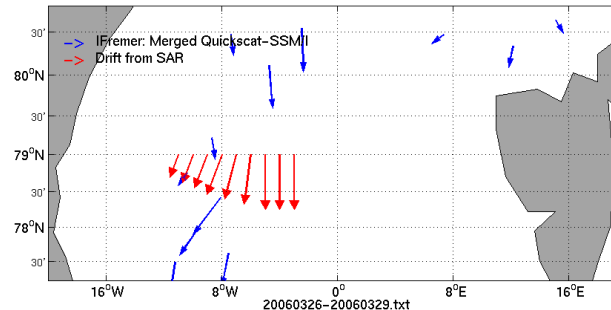


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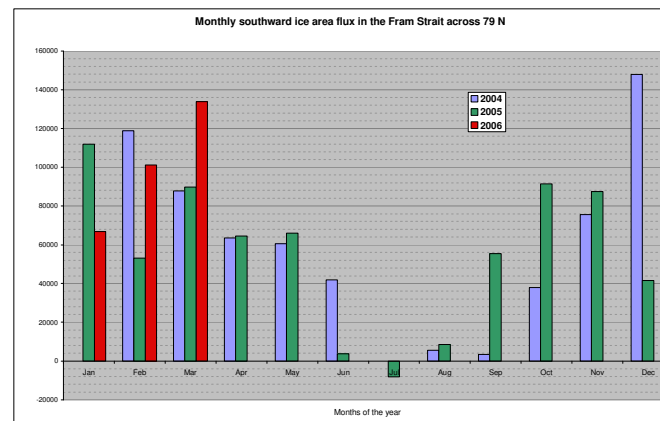
Objectives: 1) Demonstrate use of ENVISAT ASAR wide swath images in year-round ice drift monitoring; 2) Estimate monthly ice area flux through the Fram Strait and 3) comparison with other satellite-derived drift data



ASAR Wideswath images are collected at three day interval and ice displacement vectors are calculated for the drifting sea ice.



SAR-derived ice drift vectors (red vectors) are interpolated across 79 deg latitude and used in combination with ice concentration profiles to calculate ice area flux. The SAR derived ice drift is also compared with other satellite drift products (blue vectors).



Monthly ice area flux across 79 deg derived from the SAR data, starting in February 2004. The annual area flux from the SAR data is estimated to be  $0.73 \times 10^6 \text{ km}^2/\text{year}$  for 2004 and  $0.66 \times 10^6 \text{ km}^2/\text{year}$  for 2005. Area fluxes retrieved from passive microwave data from 1978 to 2002 showed a mean value of  $0.86 \times 10^6 \text{ km}^2/\text{year}$  (Kwok et al. 2004).