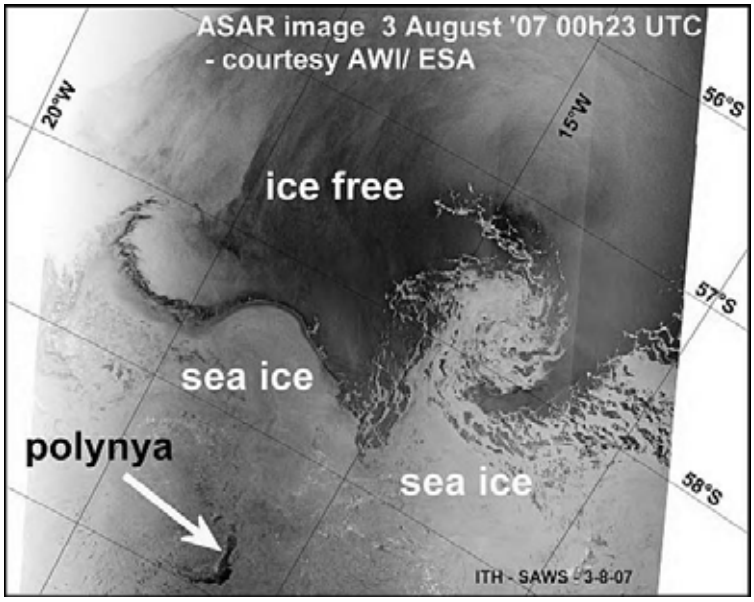
Pack Ice Moving North

The attached image was taken early this morning by the Advanced Synthetic Aperture Radar (ASAR) on the European satellite ENVISAT. These images are provided semi-real time to SAWS by the Alfred Wegener Institute (AWI).

The region covered lies well to the north-west of the SANAE IV base in Antarctica and roughly 300 nautical miles west of the South Sandwich Island group, where SAWS has an automatic weather station on South Thule Island. Fast ice (attached to the land) can pose a navigational problem over the southern part of this group even as late as December.



Note that the ice edge presently lies at about 58°S. It will continue to extend northwards until it reaches its maximum northerly position in about a month's time. September is also the month for the annual relief voyage of the *SA Agulhas* to the South African weather station on Gough Island. After offloading the new team and her cargo, she will undertake a drifting weather buoy deployment cruise to the south-west of the Island. Although the vessel is unlikely to encounter any pack ice and the nearest large (> 10nm) iceberg is at 62S 15W, it is quite possible that fragments of the latter - or other smaller 'bergs - may be sighted.

The perturbation at roughly 58°S 15°W provides an indication of the surface current patterns. High levels of nutrients at the ice edge provide for a considerable volume and variety of sea life.

Interestingly enough some global circulation models actually predict that global warming could result in an *increase* in the extent of sea ice (as opposed to ice of land origin i.e. icebergs) - in the Southern Ocean. This is due to the fact that seasonal melting is driven by the upwelling of deep, warm water. Accepting the long-term prediction of increased precipitation in this region, the ocean will become more stratified, making it more difficult for this warming to take place.

The polynya indicated in the south-western part of the image represents an area of open water or relatively low ice concentrations. The '*Agulhas*' is able to make use of a semi-permanent polynya north-east of SANAE, almost every year, on the December relief cruise to Antarctica.

Ian Hunter - SAWS - 3 August 2007