



HIGH RESOLUTION SEA ICE INFORMATION

POLAR VIEW IN THE ANTARCTIC

Timely information on sea ice conditions is essential for all types of marine operations in the Southern Ocean. As part of the Polar View services in the Antarctic, targeted acquisitions of Envisat radar imagery will provide detailed, cloud free information about sea ice extent and distribution. To ensure accurate and relevant information, data delivery to the ships aims to be within only a few hours of image acquisition.



Frequently ships do use satellite data to help navigation in sea ice. However this data can often be limited by cloud cover and normally has a low (>1km) spatial resolution. Therefore the necessary level of detail is not available since it cannot be resolved or is obscured by cloud.

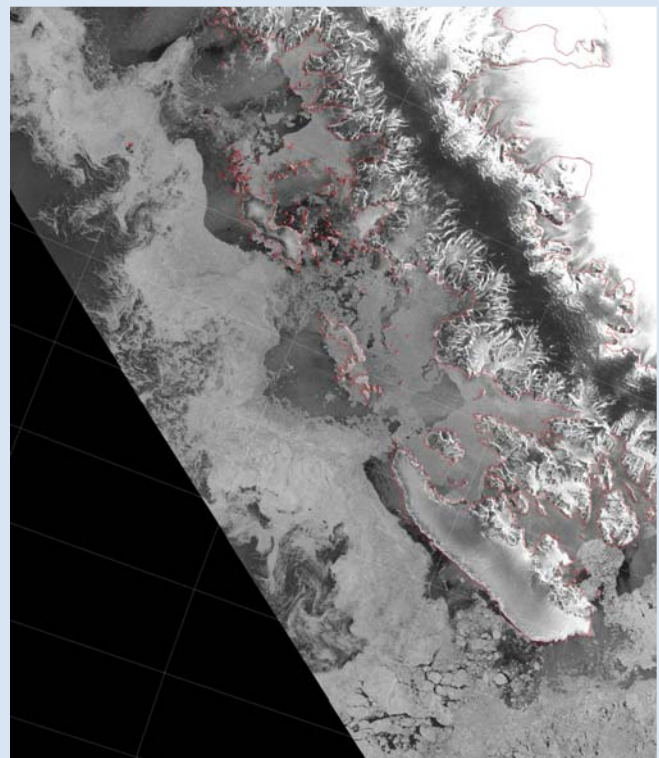
To complement other forms of sea ice information, imagery from the Envisat satellite can provide valuable added detail. Whilst not available on a routine basis for all areas, Polar View can schedule image acquisitions to coincide with a ships planned course.

Once the satellite has acquired the data, it takes only a few hours to process the image and deliver it to the ship in a useable form.

Unlike other satellite image types, this radar satellite image can 'see' through cloud and can be acquired either day or night, as it does not rely on sunlight. This data also has a higher spatial resolution of approximately 100m.

In discussion with the users, we can plan a series of these acquisitions to cover all sections of the cruise affected by sea ice and ensure the best format for delivery and use by personnel on the ship.

The example shown (right) is of the Antarctic Peninsula, including Adelaide Island in the lower half.



Polar View is funded by the joint European Space Agency as part of the Global Monitoring for Environment and Security (GMES) programme. The overall Polar View programme operates in the north and south, delivering a range of polar environmental information services. For further information on the Polar View programme please visit either the Antarctic network website www.polarview.aq or the Polar View programme website www.polarview.org. The British Antarctic Survey manages Polar View in the Antarctic. You can contact Andrew Fleming at Andrew.Fleming@polarview.org or on +44 (0)1223 221451.