

Japan's Bathymetric Survey in the Antarctic Area

For the purpose of observing various geophysical phenomena in the Antarctic area, Japan has been conducting investigative observations, transport operation and so on with cooperation of the government organizations concerned since 1955. Icebreaker "Shirase" of the Maritime Self-Defense Force has been used for these missions.

Icebreaker "Shirase" was decommissioned in July 2008 and its successor equipped with multi-beam echo sounder, which was also named "Shirase" (hereinafter referred to as "New Shirase"), was commissioned in May 2009. "New Shirase" is the fourth icebreaker engaged in Antarctic Observation.

Hydrographic and Oceanographic Department has been conducting bathymetric surveys in Lützow-holm Bay, where Syowa base is located, and Amunsen Bay to off Breid Bay using single-beam echo sounder. And after "New Shirase" goes into service, bathymetric surveys are going to be carried out using multi-beam eco sounder.

We will focus on the surveys in the area around Syowa Base for some time to come.

General characteristics of icebreaker "Shirase"

Displacement tonnage: 12,650 t
Propulsion: 30,000 PS
Main engine: Diesel-electric 4 motors 2 shafts
Complement: approximately 250
Speed: 19kt
Dimensions: 138 x 28 x 15.9 x 9.2 m
(Length, Beam, Depth, Draft)
Aircraft carried: 3 helicopters

General characteristics of multi-beam echo sounder

Type: ELAC SEABEAM 3020
Frequency: 20 kHz
Number of sampling per sweep: 205
Beam width 2°
Max swath: 130°
Depth Range: 50 - 7,000 m

