

**IHO HYDROGRAPHIC COMMISSION ON ANTARCTICA (HCA)
10th Meeting, Cambridge, United Kingdom, 20 – 22 September 2010**

**National Report - JAPAN
Hydrographic and Oceanographic Department of Japan**

1 Bathymetric Surveys with “New Shirase” in the Antarctic Area

The new icebreaker *Shirase*, who was commissioned in May 2009, conducted bathymetric surveys using a new multi-beam echo sounder in Antarctic areas including Lutzow-Holm Bay, along with the transportation of supplies and staff to Showa Station from 27 November 2009 when she left Fremantle Port, Australia until 17 May 2010, arrived in Sydney Harbour.

Since these surveys were conducted during the virgin voyage of the new *Shirase*, they were also a test to see to what extent we can acquire data with the newly installed multi-beam echo sounder while breaking thick ice in the Antarctic Ocean. Though a lot of difficulties were found, with the efforts of the survey crews, we could obtain excellent data, which enabled us to identify seafloor features, including a series of deep gullies and tracks that were presumably created by flowing glaciers. The surveys achieved their initial objectives. We will continue the surveys in Lutzow-Holm Bay and other areas in the Antarctic areas.



Multi-beam control desk

2 Publication of nautical charts

The recently published and planned charts in the Antarctic Ocean are given in the table below.

National Chart Number W3905

Title LARS CHRISTENSEN COAST TO PRINCE HARALD COAST

Area Surrounded by the four lines of 57-00S, 70-30S, 30-00E and 75-00E

Scale 1:3,000,000

Year and month published October 1966

Memo The new chart will be published in January 2011.

National Chart Number W3911

Title AMUNDSEN BAY TO LÜTZOW-HOLM BUKTA

Area Surrounded by the four lines of 65-00S, 70-00S, 33-10E and 51-40E

Scale 1:800,000

Year and month published October 1968

Memo The new chart will be published in January 2011.

National Chart Number W3922 (INT9045)

Title LÜTZOW-HOLM BUKTA AND APPROACHES

Area Surrounded by the four lines of 67-00S, 70-00S, 32-00E and 44-00E

Scale 1:500,000

Year and month published March 1995

Memo The new chart will be published in January 2011.

National Chart Number W3941 (INT9046)

Title ONGUL ISLANDS TO SKARVSNES

Area Surrounded by the four lines of 68-52S, 69-28S, 38-47E and 39-55E

Scale 1:100,000

Year and month published March 2010

National Chart Number W3950 (INT9047)

Title ONGUL TO LANGHOVDE-KITA MISAKI

Area Surrounded by the four lines of 68-59S, 69-12S, 39-18E and 39-43E

Scale 1:25,000

Title PLAN: SHOWA KICHI AND APPROACHES

Area Surrounded by the four lines of 69-00S, 69-01S, 39-35E and 39-37E

Scale 1:10,000

Year and month published March 2009

Memo The chart was published in March 2009 as a new chart. The contents of No.3951 and No.3952 were imported in the new chart and the two charts were canceled when the new chart was published.

2.1 INT Charts publication schedule

INT Number INT9045 (W3922)

Title LÜTZOW-HOLM BUKTA AND APPROACHES

Area Surrounded by the four lines of 67-00S, 70-00S, 32-00E and 44-00E

Scale 1:500,000

Year and month published March 1995

Memo The chart will be published in January 2011 as a new chart.

INT Number NT9046 (W3941)

Title ONGUL ISLANDS TO SKARVSNES

Area Surrounded by the four lines of 68-52S, 69-28S, 38-47E and 39-55E

Scale 1:100,000

Year and month published March 2010

INT Number INT9047 (W3950)

Title ONGUL TO LANGHOVDE-KITA MISAKI

Area Surrounded by the four lines of 57-00S, 70-30S, 30-00E and 75-00E

Scale 1:25,000

Title PLAN: SHOWA KICHI AND APPROACHES

Area Surrounded by the four lines of 68-59S, 69-12S, 39-18E and 39-43E

Scale 1:10,000

Year and month published March 2009

Memo The chart was published in March 2009 as a new chart.

2.2 ENC publication schedule

Not published.

3 Tidal observations

The tidal observation at Syowa Station in Antarctica has been carried out by Japan Hydrographic and Oceanographic Department (JHOD) as a part of Japanese Antarctic Research Expedition (JARE) since 1965.

The observation has been continued in good condition until now.

The observed data are transferred from the station to the JHOD once a day via satellite and are opened in public on the Internet as real time data.

(http://www1.kaiho.mlit.go.jp/KANKYO/KAIYO/jare/tide/tide_index.html)

Tsunami caused by Sumatra Earthquake on 26 December 2004 and 29 March 2005 were observed at Syowa Station even located 8,900 km far from the earthquake sites. The tsunami records are also available at the following website.

(http://www1.kaiho.mlit.go.jp/sumatra/index_e.html)

Long term variation of mean sea level at Syowa Station has been clearly observed, which would be caused by sea level rise due to global warming and crust uplift due to Antarctic ice melting.

Its monthly and yearly mean sea level are shown in fig.1 and fig.2, respectively. The tidal data from February 2006 to January 2010 are under processing.

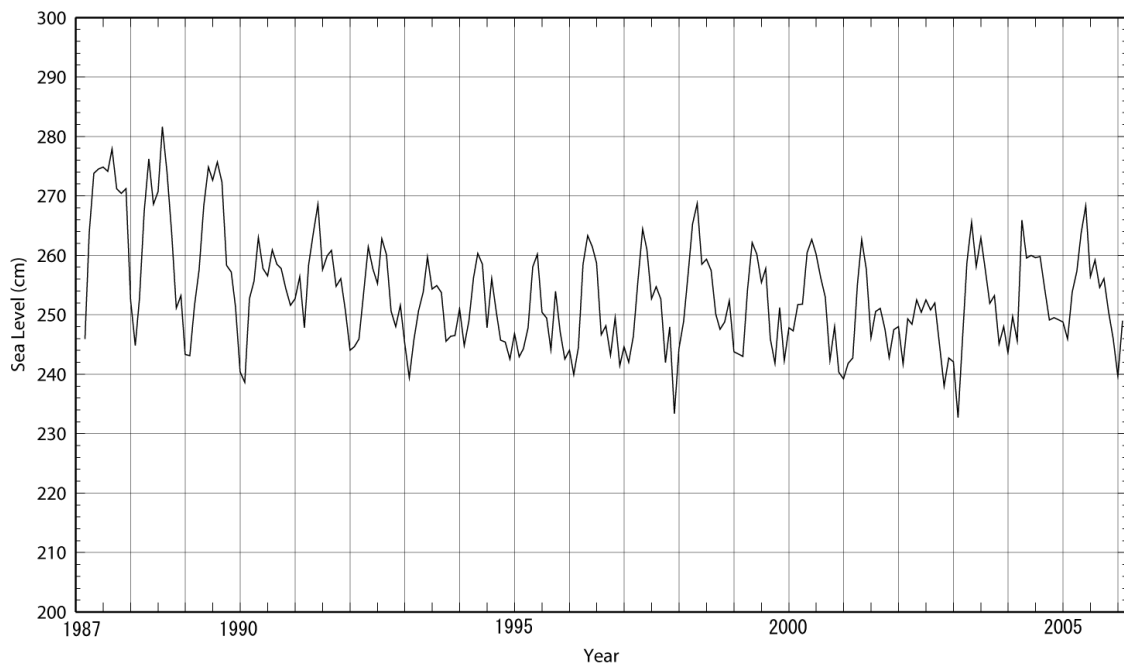


Figure 1. Monthly Mean Sea Level at Syowa Station.

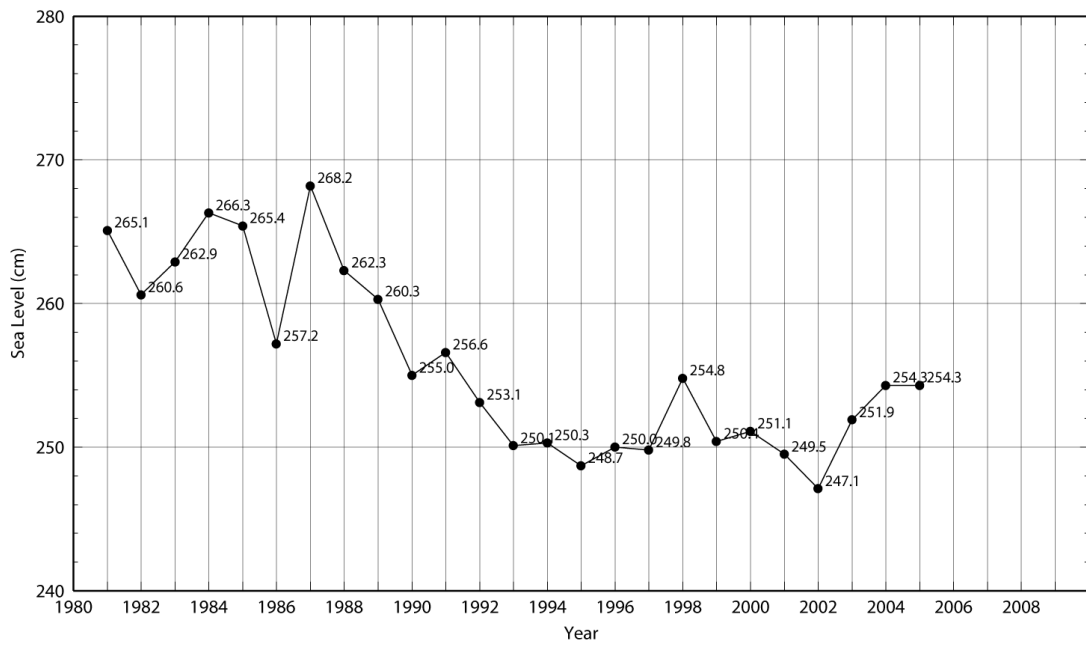


Figure 2. Yearly Mean Sea Level at Syowa Station.