

NBP12-02
Multibeam
End of Cruise Report

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Cruise Track Plot



NBP1202 Multibeam Description of Work

This report covers the Simrad EM120 Multibeam data collection and processing for the RVIB Nathaniel B. Palmer cruise NBP1202. This cruise started in McMurdo Station, Antarctica on 11 February 2012 and ended at Punta Arenas, Chile on 27 February 2012. Scott Walker (RPSC) was responsible for Multibeam data acquisition. No additional editing was performed on the data.

The first day of Multibeam data collection was 11 February 2012 and the last day was 24 February 2012. The quality of the raw multibeam data was generally good. Ice and bad weather occasionally resulted in poor data quality.

The raw Multibeam data were logged in approximately one hour-long files in the Kongsberg-Simrad EM120 raw format. This is a complex format that is not described in this report. The MB-System¹ software package may be used to access the files if additional work is to be done with the data. MB-System version 5.1.1 was used for processing of data on this cruise. These raw data files are named xxxx_yyyymmdd_hhmmss_raw.all where xxxx is a consecutive line number within the survey, yyyy is the year, mm is the month, dd is the day, hh is the hour, mm is the minute, and ss is the seconds that the file was started.

The logged Multibeam data files were transferred from the data acquisition computer to a data storage area just after the end of each day. The raw hourly data files were converted from MB-System format 56 (the raw Simrad format) to format 57 using mbcopy and made available for manual editing. The format 57 files are named xxx_yyyymmdd_hhmmss.mb57 where the first part of the name is identical to the raw file. No data files were edited while at sea.

The UNIX tar command was used to write the digital data to DDS3 tapes at the end of the cruise. These tapes were checked before distribution. The tapes contain the raw and processed data for the entire cruise. The processing scripts and gridded data for each survey are included in the processed data directory. The contents of these tapes and an itemized distribution list are located on separate pages of this report.

Speed of Sound Corrections

The travel time of sound in water was corrected at the surface by a sound velocity calculated from the Thermosalinograph (TSG). This value was supplied directly to the EM120 system serial port and the data was transmitted by the RVDAS program rv_tsg. Sound velocity profiles were calculated from CTD casts, which were combined with the Levitus historical database. The CTD data have been provided on the RVDAS data distribution. The calculated sound velocities files and plots are in the process/svp directory in this multibeam data distribution.

¹ The MB-System software package was used for all Multibeam data handling. This package was developed at Lamont-Doherty Earth Observatory. This system is designed to manipulate, process, list and display many kinds of Multibeam bathymetry, amplitude, and sidescan data. It has been successfully installed on many different computer platforms. To obtain more information about the MB-System programs or to obtain a copy of the current distribution, contact the authors David W. Caress (caress@mbari.org) and Dale N. Chayes (dale@lamont.ldeo.columbia.edu)

NBP1202 Data Distribution

Multibeam data has been provided on DDS3 tapes . The distribution consists of one (1) tape which also contains this data report. The tapes were created on Linux computers using the command `tar cvf /dev/st0` and verified to be sound on Linux a computer before they were distributed.

The contents of the tapes are described below. The processed data is in mbio format 57 in the process directory. The raw data is in mbio format 56 in the Raw directory. The processed data includes gridded files, processing scripts and postscript plots divided into subdirectories for each day and map area.

Each full DDS3 tape includes:

- **Raw** has raw data and ancillary files for 11 February through 24 February 2012. The files are divided into directories by day.
- **process** has logged data from 11 February through 24 February 2012. The processed data is provided from 11 February through 24 February 2012. The files are divided into directories by day.

Portions of this cruise took place in the exclusive economic zone (EEZ) of Chile; However, no multibeam data was recorded in these areas.

A copy of the full data distribution will be sent to the Antarctic Multibeam Synthesis at the MGDS (<http://www.marine-geo.org/>). You can locate the all information for and download data from this cruise at the web site by selecting your cruise name from the data link tool. You can also download and use the java application GeoMapApp to interactively access multibeam and other data sets. Data sent to the database will be released immediately.

You can contact the MGDS at:

MGDS Data Manager
Lamont-Doherty Earth Observatory
61 Route 9W
Palisades NY 10964 USA
845-818-3745 Phone/Fax
info@marine-geo.org

Data Distribution Information:

S/N	Who	Description	Type
1	NBP	11 – 24 Feb 2012 raw, processed	DDS 3
4	RPSC	11 – 24 Feb 2012 raw, processed	DDS 3
5	MGDS	11 – 24 Feb 2012 raw, processed	DDS 3