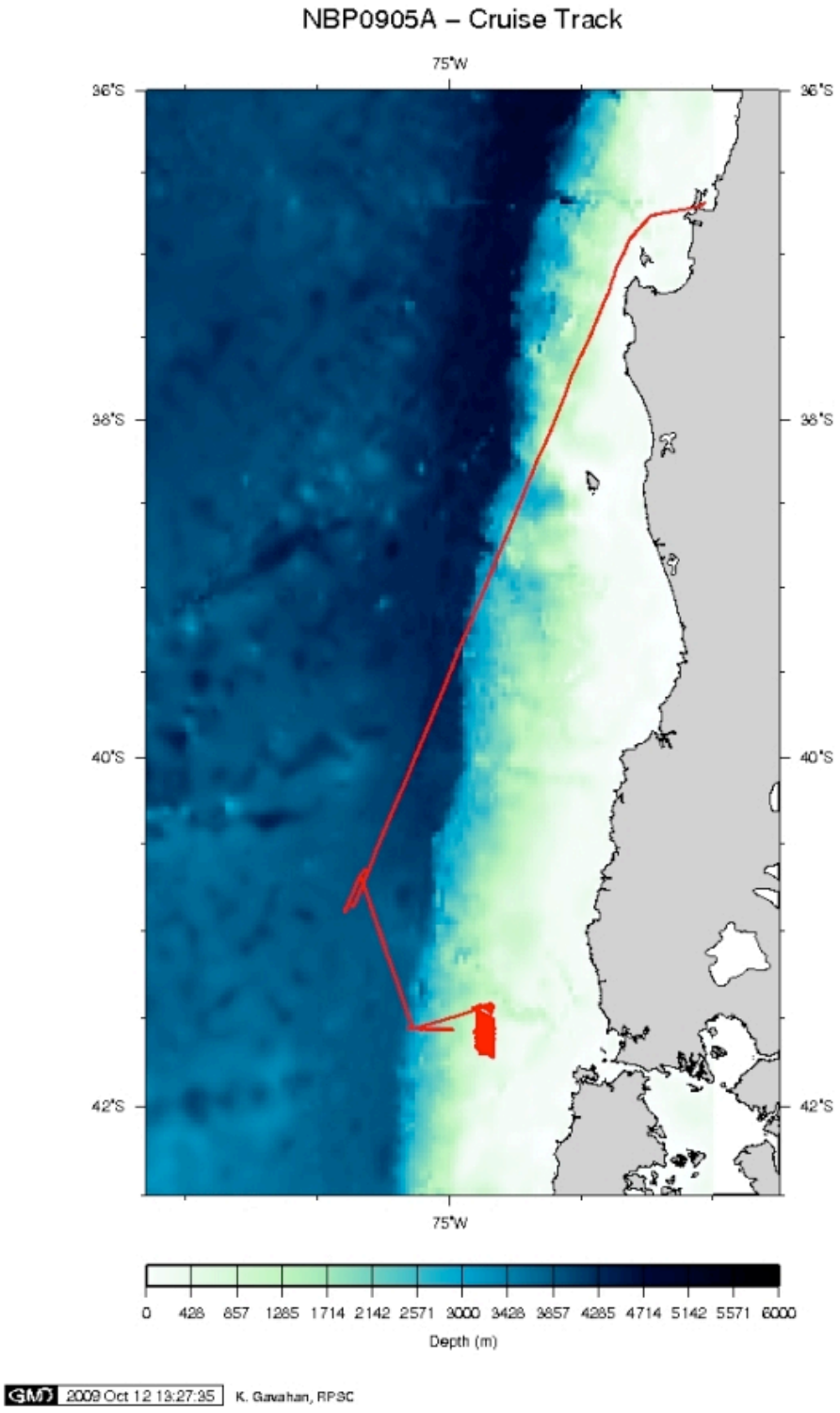
NBP0905A

Multibeam
End of Cruise Report

Prepared By Chris Linden
October 12, 2009

Contents

Cruise Track Plot



NBP0905A Multibeam Description of Work

This report covers the Simrad EM120 Multibeam data collection and processing for the RVIB Nathaniel B. Palmer cruise NBP0905A. This cruise started in Talcahuano, Chile on October 7, 2009 and ended in Puerto Montt, Chile on October 12, 2009. Data collection for this distribution goes from October 09, 2009 to October 11, 2009. The Technical Lead for this cruise was Chris Linden. Kathleen Gavahan (RPSC) and Chris Linden were responsible for Multibeam data acquisition, processing, and ping editing.

Data quality was usually good. The exceptions were when we experienced strong winds and heavy seas.

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-System[1] 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. 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. Some files were edited while at sea.

When the data quality was judged acceptable, the edits were applied to the data using mbprocess. The edited files are named xxxx_yyyymmdd_hhmmssp.mb57 where the p in the dataset name denotes a processed file.

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 mb_vel. A sound velocity profile was calculated from a XBT, which was combined with the Levitus historical database. The XBT 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)

NBP0905A Data Distribution

Multibeam data has been provided on the cruise data distribution DVD ROM disk in the multibeam directory.

The contents of the tapes are described below

- **Raw.tar** has raw data for the entire cruise
- **process.tar** has the reformatted and edited data for the entire cruise.

The data distributions also includes a printed copy of this report.

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 not be downloadable until the Chief Scientist has released the proprietary hold.

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:

Who	Description	Type
Chile	09-11 Oct 2009 Raw, process	DVD
MGDS	09-11 Oct 2009 Raw, process	DVD
NBP	09-11 Oct 2009 Raw, process	DVD
RPSC	09-11 Oct 2009 Raw, process	DVD