MIRAI MR01-K01 Bathymetry (MBES)

Last Modified: 2013-09-12

ReadMe | Observation Data | Data Format

Cruise ID: MR01-K01
Bathymetry (MBES): Processed (DMO)-Basic
Data Policy: JAMSTEC
Observation Items: Depth
Science Keywords:

OCEANS	> BATHYMETRY/SEAFLOOR TOPOGRAPHY	> BATHYMETRY
SOLID EARTH	> GEOMOROHOLOGY	

Cruise Report
http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR01-K01_all.pdf

For Using Data

Principal Investigator
Data Management Office

Use Constraints
See Terms and Conditions about constrain of use.

Data Citation
See Terms and Conditions about data citation.

Instrument

Instrument:
Multi-narrow beam echo sounder (- MR12-E01)

Overview

The data provided here are the bathymetric data obtained from the multibeam echo sounder system (MBES). The system transmits the shape echo sounder beam from the transmitter and receives the beam reflected from the seabed using the hydrophone. The water depth is calculated from the travel time of the beam between the transmitter and the receiver. Having many transmitters make fan beams across the keel, this system can obtain a lot of bathymetric data on a wide angle at once.

The travel time of the beam (from the transmitter to the seabed and from the seabed to the receiver) is corrected using the vertical profile of the sound velocity obtained from the in situ observations. (see section Sound velocity profile correction). The raw data with the low reliability such as the noise are removed using the software (see section Processed data).

Measurement System

Manufacturer:	SEABEAM INSTRUMENTS
Type :	SEABEAM 2112.004
Frequency :	12kHz
Swath angle:	Max 150°
Beam angle:	2 * 2°
Beam number:	151
Range:	50m - 11,000m
Resolution (Depth) :	Center beam [Depth (m) * 0.2%], Side beam [Depth (m) * 0.5%]

Sound velocity profile correction

In the survey area, the sound velocity profile correction is made using the XBT data acquired during the cruise. On the other hand, in the transit area, e.g., from the survey area to the port, where we do not conduct the XBT observations, the data are corrected using the historical XBT data or the Argo float data.

Processed Data

Following raw data with the low reliability are removed using the processing software "HIPS and SIPS" of CARIS Inc:

- Navigation error data.
- Data more than manufacturer specification (see section Measurement System)
- Spike noise data (If both of slopes calculated from the evaluated beam and prior/post one on the same swath are less than 5 degrees.)
- Side beam (Beam No.1-21,131-151 : Starboard is No.1 beam.)

The data quality is different in the survey and transit area because of the difference of the temperature data for the sound velocity profile correction. Therefore, we open the survey and transit area data separately. The rule of the file name is as follows.

File name :

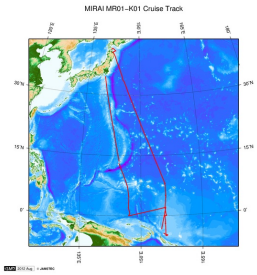
- Survey area data : YYYYMMDD.dat
- Transit area data : TYYYYMMDD.dat

YYYY: year, MM: month, DD: day
"T" of the header indicates the transit area data.

Note

(1) Geodetic system: WGS84
(2) The tide is not corrected.
(3) These data are compressed in zip format, please use that after unpacking.
(4) If you would like the raw data set, please contact us from "Contact Us" above.

Related Information



Enlarge Image

MR01-K01
Ship Name: MIRAI
Period: 2001-02-14 - 2001-03-22
Chief Scientist: Kentaro Ando (JAMSTEC)
Project Name: [Tropical Ocean Climate Study (TOCS)]

Update History

2013-09-12	An observation data was registerd.
2012-12-25	An observation data was registerd.

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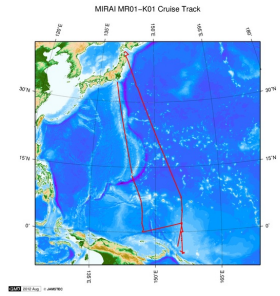
Bathymetry XYZ

The one record length of the Processed Data file is 33 bytes.

No.	Column	Description	Format	Unit	Remarks
1	1 - 11	Longitude	f11.6	degree	+ : Eastern hemisphere - : Western hemisphere
2	13 - 22	Latitude	f10.6	degree	+ : Northern hemisphere - : Southern hemisphere
3	24 - 31	Depth	f9.3	m	
4	32 - 33	Terminator	a2		[CR][LF]

Related Information



Enlarge Image

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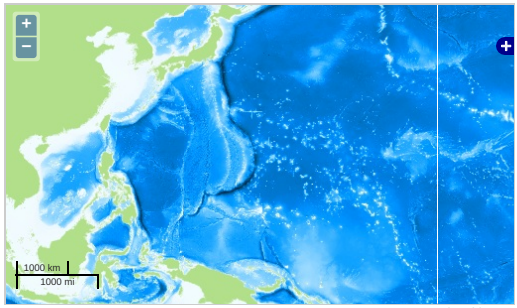
Observation Map



Imagery reproduced from ...

... Observation Line ... Navigation ... Observation, Dive Point, Hole

Data List

Add to Basket

File names
20010214.dat
20010215.dat
20010216.dat
20010217.dat
20010218.dat
20010219.dat
20010220.dat
20010221.dat
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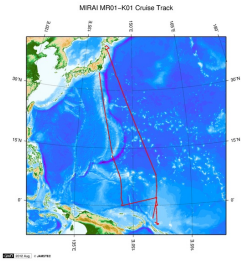
Related Information



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