

KAIMEI KM18-05C Bathymetry (MBES)

Last Modified: 2020-07-25

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Cruise ID: [KM18-05C](#)

Bathymetry (MBES): Processed (DMO)-Basic

Data Policy: [JAMSTEC](#)

Observation Items: Depth

Science Keywords:

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

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/KM18-05C_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 for shallow-medium water



Instrument:

Multi-narrow beam echo sounder for deep water



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

	Multibeam echo sounder for shallow water (MBES-S)	Multibeam echo sounder for deep water (MBES-D)
Manufacturer:	Kongsberg Maritime	Kongsberg Maritime
Type :	EM712	EM122
Frequency :	40 ~ 100 kHz	12 kHz
Swath angle:	Max 140°	Max 150°
Beam angle:	1° * 1°(50kHz), 0.5° * 0.5°(100kHz)	1° * 1°
Beam number:	256 (Soundings: Max 400)	288 (Soundings: Max 432)
Range:	3m - 3,600m	20m - 11,000m
Resolution (Depth) :	Depth (m) * 0.2% (swath width ±45 degree)	Depth (m) * 0.2% (swath width ±45 degree)

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 "CARIS HIPS and SIPS Version 9.1" of Teledyne Technologies Inc. Processed data is interpolated onto 100m grid data, and output as ascii data.

- Navigation error data
- The Data exceeded the "Range" in the Measurement system section
- The Data with swath angle exceeded 60 degrees
- Spike noise data (If both of slopes calculated from the evaluated beam and prior/post one on the same swath are exceeded 15 degrees.)
- The Bottom lost data due to the sea state etc.
- The data which came off from the sea bottom(Surface Cleaning with CARIS : Cleaning parameter=threshold 2σ(95.44%), Surface parameter=tilted plane, threshold 2σ(95.44%))

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 : XXXX.dat
- Transit area data: XXXX_t.dat

XXXX indicates cruise ID.

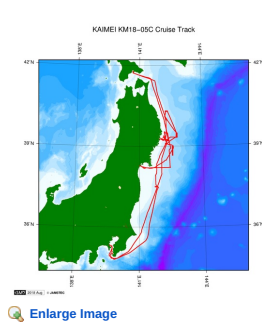
"_t" indicates the transit area data.

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) MBES-S data was collected in this cruise, but we have no plan to process the MBES-S data.
- (5) If you would like the raw data set, please contact us from "Contact Us" above.

Related Information

Cruise Data Dive Data



KM18-05C

Ship Name: KAIMEI

Period: 2018-05-29 - 2018-06-17

Chief Scientist: Shinji Tsuchida (JAMSTEC)

Project Name: [Tohoku Ecosystem-Associated Marine Sciences (TEAMS)]

Proposal Researches on marine ecosystem dynamics in the Tsunami affected area off Sanriku

Title:

Update History

Update Date	Update Content
2020-07-25	An observation data was registered.

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NATSUSHIMA

KAIYO

YOKOSUKA

MIRAI

KAIREI

CHIKYU

KAIMEI

SHINSEI MARU

HAKUHO MARU

Information of the Submersibles

KAIKO

SHINKAI 2000

SHINKAI 6500

DEEP TOW

HYPER-DOLPHIN

URASHIMA

YOKOSUKA DEEP TOW

6K Camera DEEP TOW

6K Sonar DEEP TOW

KM-ROV

POWER GRAB

SAMPLER (SHELL)

POWER GRAB

SAMPLER (CLOW)

BMS

Go to a Cruise Information

Cruise ID:

Go to a Dive Information

Dive ID:

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JAMSTEC

JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

国立研究開発法人
海洋研究開発機構

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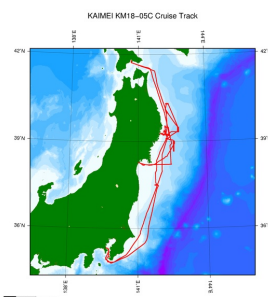
Bathymetry XYZ

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

☒ Cruise Data ☐ Dive Data



[Enlarge Image](#)

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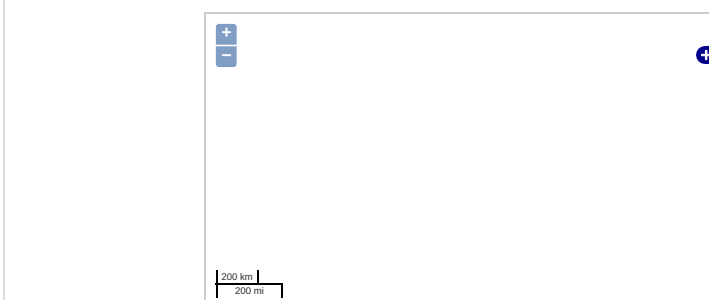
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Observation Map



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

Imagery reproduced from ...

Data List

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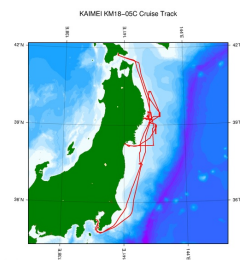
☐ File names

☐ KM18-05C.dat.zip

☐ KM18-05C_t.dat.zip

Related Information

[Cruise Data](#) [Dive Data](#)



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