

MIRAI MR08-06 Leg1 Total Magnetic Intensity (TMI)

Last Modified: 2019-06-26

[ReadMe](#)

[Observation
Data](#)

[Data Format](#)

Cruise ID: [MR08-06 Leg1](#)

Total Magnetic Intensity (TMI): Processed (DMO)-Corrected

Data Policy: [JAMSTEC](#)

Observation Items: Total magnetic field intensity

Science Keywords:

OCEANS > MARINE GEOPHYSICS > MARINE
MAGNETICS
SOLID EARTH > GEOMAGNETISM

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR08-06_leg1_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.

Period (UTC)

2009-02-06 22:01 – 2009-03-13 05:15

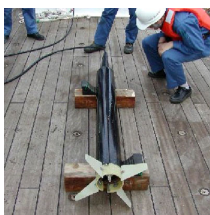
2009-01-17 01:31 – 2009-01-18 15:55

Instrument

Instrument:

Proton magnetometer (- MR12-01

Leg2)



Overview

The proton precession magnetometer measures the total magnetic field intensity as the frequency of electric current which is generated by the proton precession. In order to avoid the ship's magnetization, the instrument is towed by the vessel about 400 - 500m. As a quality control, data of low reliability was removed (see section 5. for quality control criteria). Synthetic geomagnetic field values were calculated from IGRF models.

Measurement System

Manufacturer : Geometrics, inc.

Type : G-811

Measurement range : 17,000 - 95,000 nT

Resolution : 0.01 nT

Accuracy : less than 0.5 nT

Location : Dry Laboratory

Data processing

The following corrections and calculations were performed.

(1) International Geomagnetic Reference Field (IGRF)

Synthetic geomagnetic field values are calculated from IGRF 11th generation models by using navigation data ; latitude, longitude and date.

Reference:IAGA Division V-MOD Geomagnetic Field Modeling(<http://www.ngdc.noaa.gov/IAGA/vmod/igrf.html>)

(2) Calculation of the geomagnetic field anomaly

$An = F - F_{igrf}$

An: Total geomagnetic field intensity anomaly

F: Observed total geomagnetic field intensity

F_{igrf}: Synthetic total geomagnetic field intensity from IGRF

(3) Output of the data

Time (UTC)

Latitude (degree)

Longitude (degree)

Observed total magnetic field intensity (nT)

Total geomagnetic field intensity anomaly (nT)

Quality control of data

Following criteria were used for removal of data of low reliability:

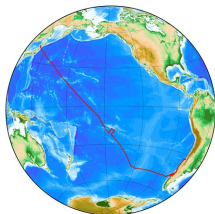
- Time error (inversion of time, continuation of same timestamps)
- Ground speed of the ship below 1knot or exceeding 20knot
- Total geomagnetic field intensity anomaly exceeding ± 4000 nT
- Spatial gradient of the total geomagnetic field intensity anomaly exceeding ± 300 nT/km

Note

- (1) File naming rule: Cruise ID_corr.tmag
- (2) Sampling rate: 10 second(It depends on geomagnetic field intensity and inclination)
- (3) Geodetic system: WGS84
- (4) If you would like the raw data set, please contact us from "Contact Us" above.

Related Information

MIRAI MR08-06 Leg1 Cruise Track



© 2011 JAMSTEC

[Enlarge Image](#)

MR08-06 Leg1

Ship Name: MIRAI
 Period: 2009-01-14 - 2009-03-13
 Chief Scientist: Natsue Abe (JAMSTEC)
 Project Name: [South Pacific Ocean Research Activity 2009]

Update History

| | |
|------------|-------------------------------------|
| 2019-06-26 | An observation data was registered. |
| 2019-03-29 | An observation data was registered. |
| 2018-06-29 | An observation data was registered. |
| 2018-05-12 | An observation data was registered. |
| 2012-10-25 | An observation data was registered. |

JAMSTEC

[Site Policy](#)
[Privacy Policy](#)
[Application for Data and Samples](#)
[Data Policy](#)
What's New
[Update History](#)
[Feeds](#)

Lists

[Publication List](#)
[Amount of Public Info.](#)
Data
[Map Search](#)
[Data Tree](#)
[Detailed Search](#)

Information of the Ships

[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:

Copyright 2011 Japan Agency for Marine-Earth Science and Technology



JAMSTEC

国立研究開発法人
 海洋研究開発機構
 JAPAN AGENCY FOR MARINE-EARTH SCIENCE AND TECHNOLOGY

MIRAI MR08-06 Leg1 Total Magnetic Intensity (TMI)

Last Modified: 2019-06-26

[ReadMe](#) [Observation Data](#) [Data Format](#)

Cruise ID: [MR08-06 Leg1](#)

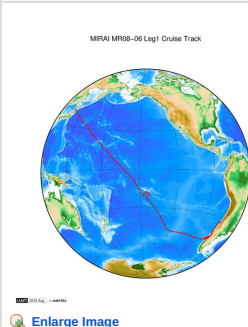
Total Magnetic Intensity (TMI): Processed (DMO)-Corrected

Data Policy: [JAMSTEC](#)

TMI Corrected

| No. | Column | Content | Format | Unit | Remarks |
|-----|--------|--|----------|--------|---|
| 1 | 1 - 8 | Date | i4,i2,i2 | | YYYYMMDD (UTC) |
| 2 | 10 -15 | Time | i2,i2,i2 | | hhmmss (UTC) |
| 3 | 17 -25 | Latitude | f9.5 | degree | No sign for the northern hemisphere. Negative for the southern hemisphere. |
| 4 | 27 -36 | Longitude | f10.5 | degree | No sign for eastern hemisphere. Negative for the western hemisphere. |
| 5 | 38 -45 | Observed total geomagnetic field intensity | f8.1 | nT | |
| 6 | 46 -53 | Total geomagnetic field intensity anomaly | f7.1 | nT | |

Related Information



MR08-06 Leg1

Ship Name: MIRAI

Period: 2009-01-14 - 2009-03-13

Chief Scientist: Natsue Abe (JAMSTEC)

Project Name: [South Pacific Ocean Research Activity 2009]

[Enlarge Image](#)

Update History

| | |
|------------|-------------------------------------|
| 2019-06-26 | An observation data was registered. |
| 2019-03-29 | An observation data was registered. |
| 2018-06-29 | An observation data was registered. |
| 2018-05-12 | An observation data was registered. |
| 2012-10-25 | An observation data was registered. |

JAMSTEC

[Site Policy](#)
[Privacy Policy](#)
[Application for Data and Samples](#)
[Data Policy](#)

[What's New](#)
[Update History](#)
[Feeds](#)

Lists

[Publication List](#)
[Amount of Public Info.](#)

[Data](#)
[Map Search](#)
[Data Tree](#)
[Detailed Search](#)

Information of the Ships

[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:

MIRAI MR08-06 Leg1 Total Magnetic Intensity (TMI)

Last Modified: 2019-06-26

[ReadMe](#) [Observation Data](#) [Data Format](#)

Cruise ID: [MR08-06 Leg1](#)

Total Magnetic Intensity (TMI): Processed (DMO)-Corrected

Data Policy: [JAMSTEC](#)

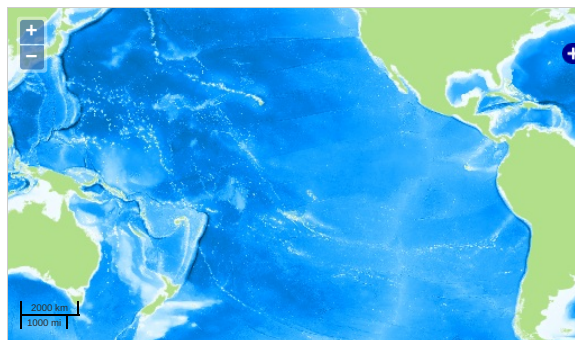
Observation Items: Total magnetic field intensity

Science Keywords:

OCEANS > MARINE GEOPHYSICS > MARINE MAGNETICS

SOLID EARTH > GEOMAGNETISM

Observation Map



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

Imagery reproduced from ...

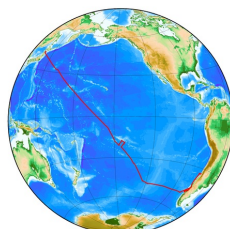
Data List

File names

☐ MR08-06_leg1_tmag.zip

Related Information

MIRAI MR08-06 Leg1 Cruise Track



[Enlarge Image](#)

MR08-06 Leg1

Ship Name: MIRAI

Period: 2009-01-14 - 2009-03-13

Chief Scientist: Natsue Abe (JAMSTEC)

Project Name: [South Pacific Ocean Research Activity 2009]

Update History

| | |
|------------|------------------------------------|
| 2019-06-26 | An observation data was registerd. |
| 2019-03-29 | An observation data was registerd. |
| 2018-06-29 | An observation data was registerd. |
| 2018-05-12 | An observation data was registerd. |
| 2012-10-25 | An observation data was registerd. |

JAMSTEC

[Site Policy](#)
[Privacy Policy](#)
[Application for Data and Samples](#)
[Data Policy](#)
[What's New](#)
[Update History](#)
[Feeds](#)

Lists

[Publication List](#)
[Amount of Public Info.](#)
[Data](#)
[Map Search](#)
[Data Tree](#)
[Detailed Search](#)

Information of the Ships

[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: