

MIRAI MR12-02 Leg1 Underway Thermosalinograph

Last Modified: 2015-06-30

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

Cruise ID: [MR12-02 Leg1](#)

Underway Thermosalinograph: Processed (PI)

Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen, Fluorescence, Chlorophyll

Science Keywords:

OCEANS > OCEAN CHEMISTRY > OXYGEN
OCEANS > OCEAN CHEMISTRY > SALINITY
OCEANS > OCEAN CHEMISTRY > CHLOROPHYLL
OCEANS > SALINITY/DENSITY > SALINITY
OCEANS > OCEAN > SEA SURFACE
OCEANS TEMPERATURE TEMPERATURE
OCEANS > OCEAN OPTICS > FLUORESCENCE

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR12-02_leg1-2_all.pdf

For Using Data

Principal Investigator

Masahide Wakita (JAMSTEC)

Hiroshi Uchida (JAMSTEC)

Use Constraints

See [Terms and Conditions](#) about constrain of use.

Data Citation

See [Terms and Conditions](#) about data citation.

Instrument

Instrument:

Continuous sea surface water monitoring system (MR10-04 Leg1 - MR14-02)



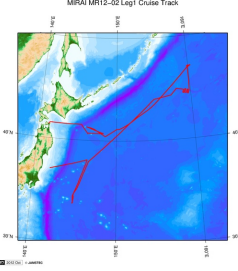
Data processing

- Missing of the position data (latitude and longitude) was linearly interpolated.
- Data whose difference from the median of 3 data points was more than the threshold (0.1 degrees C for temperature and 0.5 for salinity) was replaced by the median.
- Median filter with a window of 3 data points was applied to the fluorometer data.
- Hamming filter with a window of 15 data points was applied to the RINKO and fluorometer data.
- Salinity data were corrected by using sampled salinity data as follows.
Corrected Salinity = $c0 + c1 \cdot S + c2 \cdot \text{day}$
where S is uncorrected salinity, day is days from the first data point.
 $c0 = 3.498286727442702e-02$
 $c1 = 0.9989313584307571$
 $c2 = 4.769066106931255e-4$
- Dissolved oxygen data were corrected by using sampled dissolved oxygen data as follows.
Corrected Oxygen = $d0 + d1 \cdot O + d2 \cdot T + d3 \cdot \text{day}$
where O is uncorrected dissolved oxygen, day is days from the first data point and T is temperature.
 $d0 = 10.82923488169132$
 $d1 = 0.9600754390184659$
 $d2 = 2.442590575666692e-02$
 $d3 = 0.1469643668372171$
- Chlorophyll-a was estimated from the fluorometer data by using sampled chlorophyll-a data as follows.
Estimated chlorophyll-a = $e0 + e1 \cdot FI$
where FI is fluorescence.
 $e0 = -6.183646349826580e-2$
 $e1 = 7.482197107024714e-2$

About this data

This TSG data includes the data of MR12-02 Leg1 and MR12-02 Leg2.

Related Information



MIRAI MR12-02 Leg1 Cruise Track

Enlarge Image

MR12-02 Leg1

Ship Name: MIRAI
Period: 2012-06-04 - 2012-06-24
Chief Scientist: Makio Honda (JAMSTEC)
Project Name: [Station K2, Station KNOT]
Proposal ▶ Change in material cycles and ecosystem by the climate change and its feedback
Title:

Update History	
2015-06-30	An observation data was registerd.
2014-03-12	An observation data was registerd.
2013-04-02	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:

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 MR12-02 Leg1 Underway Thermosalinograph

Last Modified: 2015-06-30

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

Cruise ID: [MR12-02 Leg1](#)

Underway Thermosalinograph: Processed (PI)

Data Policy: [JAMSTEC](#)

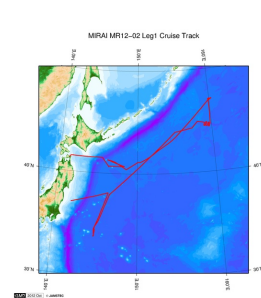
DATA Format

Column No.	Column Heading Mnemonic	Units Mnemonic	Reporting Precision	FORTTRAN Format	Comments
1	EXPCODE		A12		Expedition code
2	DATE		I8		Date (YYYYMMDD)
3	TIME	UTC	I4		Time (HHMM)
4	LATITUDE	DEG	F10.5		Latitude
5	LONGITUDE	DEG	F10.5		Longitude
6	SPEED	KNOT	F6.1		Ship speed
7	FLOW	L/MIN	F6.1		Flow rate
8	INTAKE-TEMPERATURE	ITS-90	F9.4		Temperature of bottom of the ship (SBE 38)
9	INTAKE-TEMPERATURE_FLAG		I1		see flag definition below
10	TSG-TEMPERATURE	ITS-90	F9.4		Thermosalinograph temperature (SBE 45)
11	TSG-TEMPERATURE_FLAG		I1		see flag definition below
12	TSG-SALINITY	PSS-78	F9.4		Thermosalinograph salinity (SBE 45)
13	TSG-SALINITY_FLAG		I1		see flag definition below
14	SALINITY	PSS-78	F9.4		Sampled salinity
15	SALINITY_FLAG		I1		see flag definition below
16	TSG-OXYGEN	UMOL/KG	F9.2		Oxygen sensor RINKO-II
17	TSG-OXYGEN_FLAG		I1		see flag definition below
18	OXYGEN	UMOL/KG	F9.2		Sampled oxygen
19	OXYGEN_FLAG		I1		see flag definition below
20	FLUORESCENCE	RFU	F9.2		Fluorometer C3 (primary)
21	FLUORESCENCE_FLAG		I1		see flag definition below
22	TSG-CHLOROPHYLL-A	MG/CUM	F9.3		Chlorophyll-a estimated from the fluorometer
23	TSG-CHLOROPHYLL-A_FLAG		I1		see flag definition below
24	CHLOROPHYLL-A	MG/CUM	F9.2		Sampled chlorophyll-a
25	CHLOROPHYLL-A_FLAG		I1		see flag definition below

Flag definition

- 1: not corrected
- 2: corrected for the sensor data or acceptable for the sampled data
- 3: questionable measurement
- 4: bad measurement
- 6: interpolated
- 8: low-pass filtered
- 9: missing data (missing value is -999)

Related Information



[Enlarge Image](#)

MR12-02 Leg1

Ship Name: MIRAI
Period: 2012-06-04 - 2012-06-24
Chief Scientist: Makio Honda (JAMSTEC)
Project Name: [Station K2, Station KNOT]
Proposal ▶ Change in material cycles and ecosystem by the climate change and its feedback
Title:

Update History

2015-06-30	An observation data was registered.
2014-03-12	An observation data was registered.
2013-04-02	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 MR12-02 Leg1 Underway Thermosalinograph

Last Modified: 2015-06-30

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

Cruise ID: [MR12-02 Leg1](#)

Underway Thermosalinograph: Processed (PI)

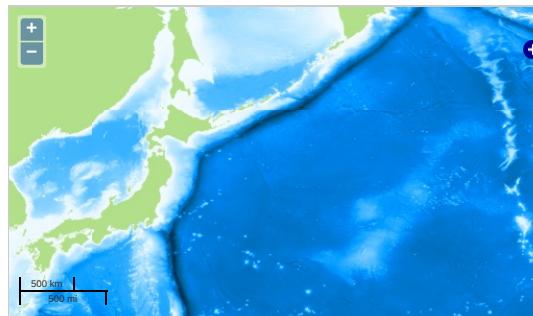
Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen, Fluorescence, Chlorophyll

Science Keywords:

OCEANS > OCEAN CHEMISTRY > OXYGEN
OCEANS > OCEAN CHEMISTRY > SALINITY
OCEANS > OCEAN CHEMISTRY > CHLOROPHYLL
OCEANS > SALINITY/DENSITY > SALINITY
OCEANS > OCEAN > SEA SURFACE
OCEANS TEMPERATURE TEMPERATURE
OCEANS > OCEAN OPTICS > FLUORESCENCE

Observation Map



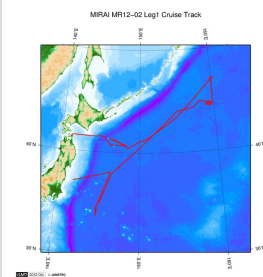
... Observation Line ... Navigation ... Observation, Dive Point, Hole

Data List

File names

☐ 49NZ20120604_tsg.csv

Related Information



[Enlarge Image](#)

MR12-02 Leg1

Ship Name: MIRAI
Period: 2012-06-04 - 2012-06-24
Chief Scientist: Makio Honda (JAMSTEC)
Project Name: [Station K2, Station KNOT]
Proposal ▶ Change in material cycles and ecosystem by the climate change and its feedback
Title:

Update History

2015-06-30	An observation data was registered.
2014-03-12	An observation data was registered.
2013-04-02	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: