MIRAI MR12-E03 Underway Thermosalinograph

Last Modified: 2015-06-30

ReadMe | Observation Data | Data Format

Cruise ID: MR12-E03

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 TEMPERATURE	> SEA SURFACE TEMPERATURE
OCEANS	> OCEAN OPTICS	> FLUORESCENCE

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR12-E03_all.pdf

For Using Data

Principal Investigator

Shigeto Nishino (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)

Overview

1. Missing of the position data (latitude and longitude) was linearly interpolated.
2. 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.
3. Median filter with a window of 3 data points was applied to the fluorometer data.
4. Hamming filter with a window of 15 data points was applied to the RINKO and fluorometer data.
5. Salinity and oxygen data were corrected by using sampled data as follows.

   Corrected Salinity = c0 + c1*S + c2*day

   Corrected Oxygen = d0 + d1*O + d2*T + d3*day

   where S is uncorrected salinity, O is uncorrected dissolved oxygen, day is days from the first data point and T is temperautre.

   c0 = 2.495641869668417e-2

   c1 = 0.9998358907784815

   c2 = -4.544638082863379e-5

   d0 = -15.6236

   d1 = 0.9952655

   d2 = 0.419058

   d3 = -0.1879829
6. Chlorophyll-a was estimated from the fluorometer data by using sampled data as follows.

   Estimated chlorophyll-a = e0 + e1*Fl (for latitude <= 60 degrees N)

   = e0 + e2*Fl (for latitude >= 61 degrees N)

   = f1*(e0 + e1*Fl) + f2*(e0 + e2*Fl) (for 60 degrees N < latitude< 61 degrees N)

   where Fl is fluorescence.

   e0 = -4.97353598e-2

   e1 = 5.976125195e-2

   e2 = 0.16483869226

   f1 = 1 - (latitude - 60)

   f2 = 1 - f1

Notice

Kikuchi, T., 2012, R/V Mirai Cruise Report MR12-E03, edited by T. Kikuchi and S. Nishino, 190pp., JAMSTEC, Yokosuka, Japan.

Upon consultation in advance with the chief of investigation and the person(s) in charge of research issues who gathered that data, we request that the text of the results material contain a statement to the effect that it was obtained during the R/V Mirai cruise of MR12-E03, the Chief Scientist, Takashi Kikuchi (JAMSTEC), and the following Principal Investigators (PIs) for gathering the data.

Chief Scientist
Takashi Kikuchi
Japan Agency for Marine - Earth Science and Technology (JAMSTEC)
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Tel: +81-46-867-9486, Fax: +81-46-867-9437
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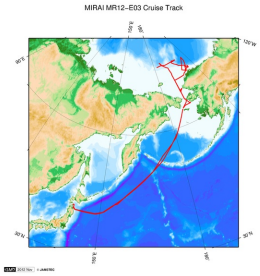
PIs for TSG
Shigeto Nishino (JAMSTEC)
Hiroshi Uchida (JAMSTEC)

And also the data were obtained under the GRENE (Green Network of Excellence) Arctic Climate Change Research Project of the Ministry of Education, Culture, Sports, Science and Technology in Japan (MEXT).

Related Information



Enlarge Image

MR12-E03
Ship Name: MIRAI
Period: 2012-09-03 - 2012-10-17
Chief Scientist: Takashi Kikuchi (JAMSTEC)
Project Name: [Arctic Ocean Climate System Reaserch]
Proposal Title: Ecosystem studies on the Arctic Ocean declining sea ice

Update History

2015-06-30	An observation data was registerd.
2014-04-09	An observation data was registerd.
2013-12-27	An observation data was registerd.
2013-03-08	An observation data was registerd.

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KAIMEI
SHINSEI MARU
HAKUHO MARU

Information of the Submersibles
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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

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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

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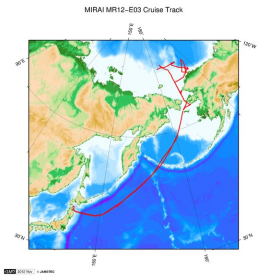
DATA Format

Column No.	Column Heading Mnemonic	Units Mnemonic	Reporting Precision FORTRAN Format	Comments
1	EXPOCODE		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



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Observation Map

Imagery reproduced from ...

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

Data List

Add to Basket

	File names
☐	49NZ20120903_tsg.csv

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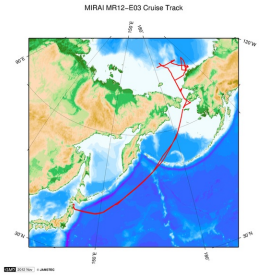

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