

MIRAI MR02-K05 Leg1 Conductivity-Temperature-Depth Profiler (CTD)

Last Modified: 2017-07-22

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

Cruise ID: [MR02-K05 Leg1](#)

Conductivity-Temperature-Depth Profiler (CTD): Processed (PI)

Data Policy: [JAMSTEC](#)

Observation Items: Pressure, Temperature, Salinity, Dissolved oxygen

Science Keywords:

OCEANS > OCEAN CHEMISTRY > OXYGEN
OCEANS > OCEAN TEMPERATURE > WATER TEMPERATURE
OCEANS > SALINITY/DENSITY > SALINITY

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR02-K05_leg1_all.pdf

[For Using Data](#)

Principal Investigator

Akihiko Murata / Koji Shimada (JAMSTEC)

Use Constraints

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

Data Citation

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

Instrument

Instrument:

Water sampling system with CTD (30
litters * 24 bottles)



Instrument:

Water sampling system with CTD (12
litters * 36 bottles)



Instrument:

Water sampling system with CTD (12
litters * 12 bottles)



Instrument:

Conductivity temperature depth
measurements (CTD)



Overview

Citation

Shimada, K. 2002, R/V Mirai Cruise Report MR02-K05 Leg1, edited by K. Shimada, S. Nishino, and M. Itoh, 226pp., 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 MR02-K05 Leg1 under the project of JWACS 2002, the Chief Scientist, Koji Shimada (JAMSTEC), and the following Principal Investigators (PI) for gathering the data.

Chief Scientist

Koji Shimada (JAMSTEC)

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Tel: +81-3-5463-0465 Fax: +81-3-5463-0378

E-mail: koji AT kaiyodai.ac.jp

PI for CTD

Koji Shimada (JAMSTEC)

Collaborators:

Motoyo Itoh (JAMSTEC)

Eddy Carmack (Institute of Ocean Sciences)

Data processing

Mirai 2002 CTD/DO Calibration Note

The secondary conductivity sensor on the CTD has shifted about 0.008 psu during the cruise. We recommend using temperature and salinity values of the primary CTD sensor. Based on comparison with the bottle salinity data (measured by GUIDLINE AUTOSAL), the primary conductivity was corrected using the following formula (see [Figure 1](#)):

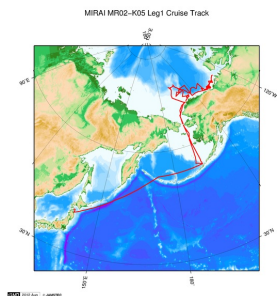
Corrected Conductivity= Conductivity×Factor

where Factor= 0.999799–Pressure (dbar)×6.5473988×10^{–9}

The corrected CTD salinities agree with the bottle salinities to within ±0.0016 psu above 300 dbar and within ±0.0009 psu below 300 dbar.

Data from the SBE43 (CTD dissolved oxygen probe) is corrected based on comparison with bottle oxygen data (measured by Winkler titration method), after Owens and Millard [1985] as described in a SBE technical report [Application Note 64]. For St001-St124, the corrected CTD oxygen data agree with the bottle oxygen to within ±0.045 ml/l (see [Figure 2](#)). For St125-144, the CTD oxygen probe has shifted about -0.19ml/l due to freezing. We corrected this bias for St125-144. However, the corrected CTD oxygen data for St141-144 seem to be questionable as shown in [Figure 3](#).

Related Information



[Enlarge Image](#)

MR02-K05 Leg1

Ship Name: MIRAI

Period: 2002-08-24 - 2002-10-10

Chief Scientist: Akihiko Murata (JAMSTEC)/Koji Shimada (JAMSTEC)

Project Name: [Arctic Ocean Climate System Research]

Update History

2017-07-22	An observation data was registered.
2013-03-27	An observation data was registered.
2012-12-25	An observation data was registered.

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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:

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Data Policy: [JAMSTEC](#)

CTD PI (MR02-K05 Leg1)

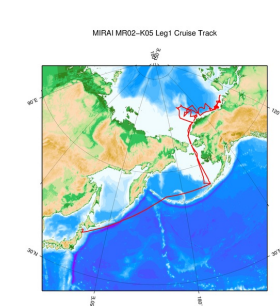
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Line	Content
10	Cruise ID
11	Station No.
12	Date
13	Time
14	Latitude
15	Longitude

Data part, the first column of each line is blank.

No.	Column	Content	Unit	Format
1	1- 11	scan number	-	i11
2	12- 22	pressure	dbar	i11
3	23- 33	temperature (primary)	degC	f11.4
4	34- 44	conductivity (primary)	S/m	f11.6
5	45- 55	temperature (secondary)	degC	f11.4
6	56- 66	conductivity (secondary)	S/m	f11.6
7	67- 77	dissolved oxygen (primary)	umol/kg	f11.1
8	78- 88	dissolved oxygen (primary)	ml/l	f11.4
9	89- 99	distance to bottom	m	f11.2
10	100-110	fluorescence intensity	-	e11.2
11	111-121	transmittance	-	f11.4
12	122-132	descent rate	m/s	f11.3
13	133-143	scan number per bin	-	i11
14	144-154	salinity (primary)	PSU	f11.4
15	155-165	potential density (sigma-theta)	kg/m^3	f11.4
16	166-176	potential temperature	degC	f11.4
17	177-187	salinity (secondary)	PSU	f11.4
18	188-198	flag	-	e11.2

Related Information



[Enlarge Image](#)

MR02-K05 Leg1

Ship Name: MIRAI

Period: 2002-08-24 - 2002-10-10

Chief Scientist: Akihiko Murata (JAMSTEC)/Koji Shimada (JAMSTEC)

Project Name: [Arctic Ocean Climate System Reaserch]

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YOKOSUKA DEEP TOW
6K Camera DEEP TOW
6K Sonar DEEP TOW
KM-ROV
POWER GRAB SAMPLER (SHELL)
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Go to a Cruise Information

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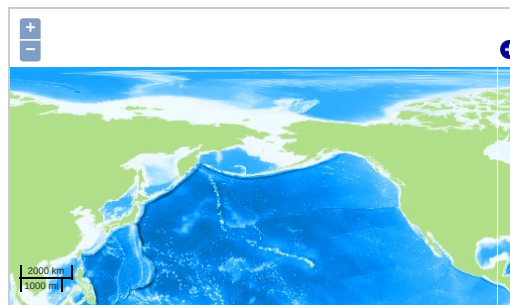
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Science Keywords:

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OCEANS > OCEAN > WATER
TEMPERATURE TEMPERATURE
OCEANS > SALINITY/DENSITY > SALINITY

Observation Map

1. Clicking the icon displays a balloon with observation information.



Imagery reproduced from ...

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

Data List



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File names

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File names	
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- Observation List
The list of observation is shown as follows.

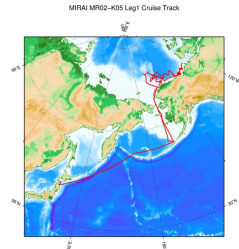
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d002m01	2002-09-04 22:24	65.6792	-168.4958
d003m01	2002-09-05 01:50	66.5000	-168.5030
d004m01	2002-09-05 09:55	68.2537	-168.4983
d005m01	2002-09-05 12:12	68.5050	-167.6277
d006m01	2002-09-05 17:00	69.4992	-166.9938
d007m01	2002-09-05 22:45	70.4995	-163.9910
d008m01	2002-09-06 14:54	70.8318	-160.4940
d009m01	2002-09-06 18:50	71.3327	-157.9992
d010m01	2002-09-06 21:00	71.5017	-156.7425
d011m01	2002-09-06 23:20	71.6843	-155.5067
d012m01	2002-09-07 01:38	71.8812	-155.0003
d013m01	2002-09-06 03:50	72.0668	-154.5020
d014m01	2002-09-08 06:00	71.6083	-154.8433
d015m01	2002-09-08 06:40	71.6405	-154.9217
d016m01	2002-09-08 07:30	71.6795	-154.9762
d017m01	2002-09-08 08:15	71.6987	-155.0693
d018m01	2002-09-08 08:57	71.7322	-155.1228
d019m01	2002-09-08 10:37	71.7650	-155.2410
d020m01	2002-09-08 11:33	71.8133	-155.2928
d021m01	2002-09-08 12:38	71.8672	-155.4947
d022m01	2002-09-08 13:35	71.9317	-155.6495
d023m01	2002-09-08 14:55	71.9990	-155.9975
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d026m01	2002-09-08 20:00	72.3000	-158.4000
d027m01	2002-09-08 21:45	72.3988	-159.2002
d028m01	2002-09-08 23:30	72.5000	-160.0000
d029m01	2002-09-09 01:24	72.5993	-159.7030
d030m01	2002-09-09 02:40	72.6953	-159.4147
d031m01	2002-09-09 04:15	72.7998	-159.1000
d032m01	2002-09-09 06:55	72.8995	-158.7980
d033m01	2002-09-09 08:57	73.0003	-158.5000
d034m01	2002-09-09 12:01	73.1660	-158.0040
d035m02	2002-09-09 17:04	73.3453	-157.4755
d036m01	2002-09-09 20:50	73.4892	-157.0150
d036m02	2002-09-10 01:27	73.4993	-157.0127
d037m01	2002-09-10 03:54	73.8353	-156.9970
d038m01	2002-09-10 06:26	74.0822	-157.1645
d039m01	2002-09-10 08:37	74.2507	-157.5047
d040m01	2002-09-10 10:16	74.3290	-157.6603
d041m01	2002-09-10 13:18	74.4112	-157.8253
d042m01	2002-09-10 17:00	74.5018	-158.0050
d043m01	2002-09-10 19:00	74.5853	-158.1703
d044m01	2002-09-10 20:58	74.5023	-158.4920
d045m01	2002-09-10 22:23	74.4525	-158.7357
d046m01	2002-09-10 23:51	74.4015	-158.9920
d047m01	2002-09-11 18:57	74.2477	-162.5597
d047m02	2002-09-11 21:27	74.2522	-162.5845
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d054m01	2002-09-12 17:00	73.7138	-161.0025
d055m01	2002-09-12 19:33	73.7292	-160.0022
d056m01	2002-09-12 22:25	73.7777	-159.0167
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d060m01	2002-09-13 23:20	73.0017	-154.2530
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d063m01	2002-09-14 15:51	72.4993	-151.3365
d064m01	2002-09-14 22:08	73.0020	-150.1677
d065m01	2002-09-15 04:05	73.0007	-148.0027
d066m01	2002-09-15 10:13	72.5000	-146.6015
d067m01	2002-09-15 15:28	72.0022	-145.9967
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d069M01	2002-09-16 14:56	72.4895	-142.1367
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u108M01	2002-09-27 18:20	69.6980	-138.3328
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Related Information



MIRAI MR02-K05 Leg1 Cruise Track

MR02-K05 Leg1
Ship Name: MIRAI
Period: 2002-08-24 - 2002-10-10
Chief Scientist: Akihiko Murata (JAMSTEC)/Koji Shimada (JAMSTEC)
Project Name: [Arctic Ocean Climate System Reaserch]

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2017-07-22	An observation data was registerd.
2013-03-27	An observation data was registerd.
2012-12-25	An observation data was registerd.

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