

SHINSEI MARU KS-17-J08C Underway Thermosalinograph

Last Modified: 2020-10-02

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Cruise ID: [KS-17-J08C](#)

Underway Thermosalinograph: Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

Observation Items: Temperature, Salinity, Dissolved oxygen

Science Keywords:

OCEANS > OCEAN CHEMISTRY > OXYGEN
OCEANS > SALINITY/DENSITY > SALINITY
OCEANS > OCEAN > SEA SURFACE
TEMPERATURE TEMPERATURE

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/KS-17-J08C_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:

Continuous sea surface water
monitoring system



Overview

Thermosalinograph measures the following surface parameters continuously.

- temperature
- salinity
- dissolved oxygen

Sea surface water is continuously pumped up at 2.9 meters depth and then flowed into each analysis equipment through a steel pipe and a vinyl-chloride pipe.
The flow rate of this system is controlled by some valves. Data are recorded in the personal computer.

System

- Temperature

Model: Pt100 N66M, Nippon Electric Instrument

S/No. : TS14831

Measurement range : M (0-220 deg-C)

Accuracy : ± 0.15 deg-C (JIS Grade A)

Sensor location: ship bottom (mean draft: 4.5m)

- Salinity sensor

Model : RINKO-AAQ170, JFE Advantech Co., Ltd.

S/No. : 130

Measurement range : [Conductivity] 0.5 to 70 mS/cm, [Salinity] 2 to 42 (PSU)

Accuracy : [Conductivity] ± 0.01 mS/cm, [Salinity] -

Resolution : [Conductivity] 0.001 mS/cm, [Salinity] 0.001

- DO sensor

Model : RINKO-AAQ170, JFE Advantech Co., Ltd.

S/No. : 130

Measurement range : 0 to 200% (0 to 20 mg/L)

Accuracy : $\pm 2\%$ FS (± 0.4 mg/L)

Resolution : 0.01% (0.001mg/L)

Reference

Garcia and Gordon. 1992. Oxygen solubility in seawater: Better fitting equations. Limnol. Oceanogr., 37(6), 1992

Thierry V., H. Blittig, D. Gilbert, T. Kobayashi, K. Sato, C. Schmid, 2018: Processing Argo OXYGEN data at the DAC level, v2.3.1

<http://dx.doi.org/10.13155/39795>

Data acquisition

Date/Time (UTC)	Start/Stop	Remarks
2017/05/28, 08:59	start	35-24.13N, 140-45.63E
2017/06/04, 22:12	stop	38-39.43N, 141-51.80E
2017/06/07, 01:57	start	38-12.06N, 141-29.46E
2017/06/14, 04:09	stop	34-58.34N, 140-15.45E

Data processing

- (1) Unit conversion of oxygen

The conversion of units from saturation to concentration was carried out using the equation of Garcia and Gordon. 1992. and Thierry V. et al. 2018.

- (2) Quality control

QCed data were added flag according to the NODC (National Oceanographic Data Center) quality control procedure.

- 1) The gradient check of adjacent depth data

Please see the site of NODC of the following link for quality control procedure in detail.

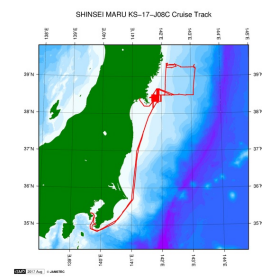
[QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

In addition, an abnormal value is identified by a visual check, and the data after visual QC is released.

About this data

- (1) In this cruise, there are extra data of temperature, chlorophyll-a, turbidity obtained by RINKO sensor, in addition to opened data of temperature at ship bottom, salinity, and dissolved oxygen. Please contact us from "Contact Us" above if necessary.

Related Information



[Enlarge Image](#)

KS-17-J08C

Ship Name: SHINSEI MARU
 Period: 2017-05-28 - 2017-06-15
 Chief Scientist: Shuichi Watanabe (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

2020-10-02	An observation data was registerd.
2020-02-28	An observation data was registerd.
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Information of the Submersibles

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 SHINKAI 6500
 DEEP TOW
 HYPER-DOLPHIN
 URASHIMA
 YOKOSUKA DEEP TOW
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 6K Sonar DEEP TOW
 KM-ROV
 POWER GRAB
 SAMPLER (SHELL)
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TSG DMO

Format Description for the QCed Data

Each data file contains one line header and daily observation data.

Header part

No.	Column	Content	Format	Remarks
1	1	Header ID	a1	fixed as '#'
2	3 - 6	Data ID	a4	TSG
3	8 - 22	Cruise ID	a15	e.g. MRYX-XX_legx
4	68 - 71	Number of data lines	i4	
5	72 - 73	Terminator	-	CR+LF

Data part

No.	Column	Content	Unit	Format	Remarks
1	1 - 8	Date	-	i8	YYYYMMDD (UTC)
2	10 - 13	Time	-	i4	hhmm (UTC)
3	15 - 23	Latitude	-	i2,a1,f5.2,a1	dd-mm.mmN(S)
4	25 - 34	Longitude	-	i3,a1,f5.2,a1	ddd-mm.mmE(W)
5	35 - 45	Temperature	deg-C	f11.3	ITS-90
6	46 - 56	Salinity	PSU	f11.3	PSS-78
7	57 - 67	Dissolved oxygen	μmol/kg	f11.1	
8	68 - 78	Flag	-	i11	1 - 6 : space 7 : flag of date/time 8 : flag of latitude/longitude 9 : flag of temperature 10 : flag of salinity 11 : flag of dissolved oxygen
9	79 - 80	Terminator	-	-	CR+LF

* This format has been applied since MR10-04 cruise of R/V Mirai.

* Temperature, Salinity, Dissolved oxygen: Missing value is presented by '-5', and error value is presented by '-9'.

Definition of Quality Control Flags

1. Observed Level Flags

- 0 - accepted value
- 1 - range outlier (outside of broad range check)
- A - doubtful value
- N - missing value

2. Date and time flag (Thermosalinograph only)

- 0 - accepted data and time
- 1 - failed duplicate/missing/incorrect date and time

3. Position flag (Thermosalinograph only)

- 0 - accepted position
- 1 - failed estimated ship speed check including missing/incorrect position

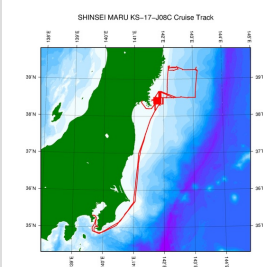
For details about range set of temperature, salinity and oxygen data, please refer the web site of NODC (National Oceanographic Data Center) from the following link for quality control procedure.

[QUALITY CONTROL AND PROCESSING OF HISTORICAL OCEANOGRAPHIC TEMPERATURE, SALINITY, AND OXYGEN DATA](#)

Sample Program

[ex_read2.f](#)

Related Information



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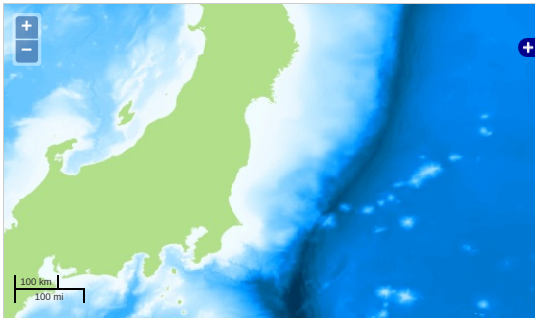
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- OCEANS TEMPERATURE TEMPERATURE

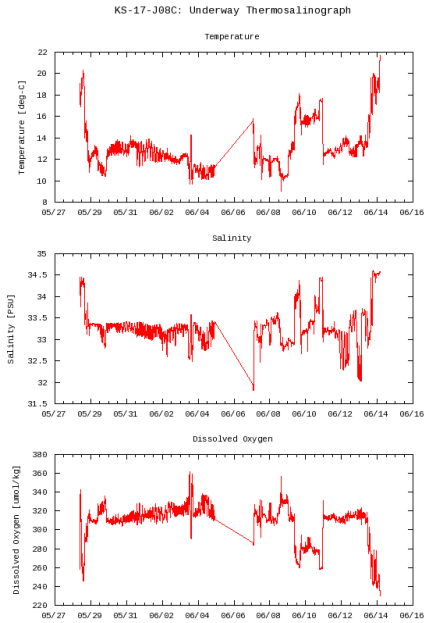
Observation Map



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

Imagery reproduced from ...

Figures

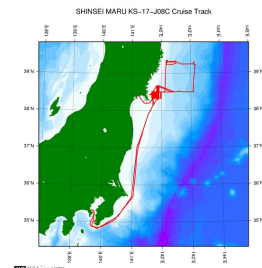


Data List

Add to Basket

<input type="checkbox"/> File names
<input type="checkbox"/> 20170528.dat
<input type="checkbox"/> 20170529.dat
<input type="checkbox"/> 20170530.dat
<input type="checkbox"/> 20170531.dat
<input type="checkbox"/> 20170601.dat
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<input type="checkbox"/> 20170604.dat
<input type="checkbox"/> 20170607.dat
<input type="checkbox"/> 20170608.dat
<input type="checkbox"/> 20170609.dat
<input type="checkbox"/> 20170610.dat
<input type="checkbox"/> 20170611.dat
<input type="checkbox"/> 20170612.dat
<input type="checkbox"/> 20170613.dat
<input type="checkbox"/> 20170614.dat
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