

SHINSEI MARU KS-21-26 Navigation

Last Modified: 2022-02-28

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

Cruise ID: **KS-21-26**

Navigation: Processed (DMO)-QCed

Data Policy: [JURCAOS-JAMSTEC](#)

Observation Items:

Science Keywords:

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:

Wide Area Differential GPS system



Overview

The following information is continuously collected and recorded as the Navigation QCed data during the cruise of R/V SHINSEI MARU.

Time
Location
Surface temperature
Wind direction and velocity
Current direction and velocity
Water depth

Data are recorded every one minute, and data file named after cruise code.

Sensor specifications

1) GPS

Manufacturer: Fugro Survey Limited
Model: StarPack-D
Receiver location: Radar mast

2) Seawater Temperature

Manufacturer: NIPPON ELECTRIC INSTRUMENT, INC.
Model: PT100 N66M
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)

3) Doppler sonar

Manufacturer: FURUNO ELECTRIC CO., LTD.
Model: DS-60
Range: Ship speed: -10.00 - +40.00 knot [Cross direction]
-9.99 - 9.99 knot [Horizontal direction]
Current direction and speed: 0.00 - 9.99 knot [All direction]
Accuracy: Water tracking: $\pm 1.0\%$ or ± 0.1 knot, whichever is greater

4) Multi narrow beam echo sounder for shallow-medium water

Manufacturer: Teledyne RESON
Model: SeaBat7125SV2
Frequency: 200kHz or 400kHz
Range: 0.5 - 450m

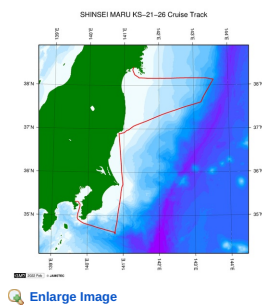
5) Multi narrow beam echo sounder for deep water

Manufacturer: Wartsila ELAC Nautik
Model: SeaBeam3020
Frequency: 20kHz
Range: 50 - 9,000m

6) Anemometer

Manufacturer: NIPPON ELECTRIC INSTRUMENT, INC.
Model: N-363D
Altitude: 15m (above sea level)
Range: Wind direction: all direction
Wind speed: 2 - 60m/s
Accuracy: Wind speed: less 10m/s or less $\pm 0.5\text{m/s}$
more 10m/s or less $\pm 0.5\%$

Related Information



KS-21-26

Ship Name: SHINSEI MARU

Period: 2021-11-01 - 2021-11-04

Chief Scientist: Masanao Shinohara (The University of Tokyo)

Proposal Long-term seafloor seismic observations on seaward side of trench for profiling of northeastern

Title: Japan island arc to reveal evolution

Update History

2022-02-28

An observation data was registered.

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MIRAI

KAIREI

CHIKYU

KAIMEI

SHINSEI MARU

HAKUHO MARU

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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

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Navigation Qced

The one record of this data has 117 bytes of data part and 12 bytes of flag part.

Data part

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 - 19	Datum	a3		W84:WGS84 TD:_TOKYO DATUM
4	21 - 31	Latitude	i2,x1,f7.4,a1	degree - minute	dd-mm.mmmmmN(S)
5	33 - 44	Longitude	i3,x1,f7.4,a1	degree - minute	ddd-mm.mmmmmE(W)
6	46 - 49	Ship speed (Ground)	f4.1	knot	
7	51 - 55	Course (Ground)	f5.1	degree	
8	57 - 60	Ship speed (Water)	f4.1	knot	*1
9	62 - 66	Gyro	f5.1	degree	
10	68 - 72	Air temperature	f5.1	deg-C	
11	74 - 78	Sea surface temperature (SST)	f5.2	deg-C	
12	80 - 85	Atmospheric pressure	f6.1	hPa	Adjusted to the sea surface level
13	87 - 89	Relative humidity	i3	%	
14	91 - 93	True wind direction	i3	degree	Averaged over the previous 6 seconds *2
15	95 - 98	True wind speed	f4.1	m/sec	Averaged over the previous 6 seconds *2 No anemometer height adjustment
16	100 - 106	Depth	f7.1	m	
17	108 - 112	Current direction	f5.1	degree	Calculated value
18	114 - 117	Current speed	f4.1	knot	Calculated value

Flag part

No.	Column	Description	Format	Remarks
19	119	Flag 1	i1	QC flag for 'Latitude' and 'Longitude'
20	120	Flag 2	i1	QC flag for 'Ship speed (Ground)'
21	121	Flag 3	i1	QC flag for 'Course (Ground)'
22	122	Flag 4	i1	QC flag for 'Ship speed (Water)'
23	123	Flag 5	i1	QC flag for 'Gyro'
24	124	Flag 6	i1	QC flag for 'Air temperature'
25	125	Flag 7	i1	QC flag for 'Sea Surface Temperature (SST)'
26	126	Flag 8	i1	QC flag for 'Atmospheric pressure'
27	127	Flag 9	i1	QC flag for 'Relative humidity'
28	128	Flag 10	i1	QC flag for 'Wind direction' and 'Wind speed'
29	129	Flag 11	i1	QC flag for 'Depth'
30	130	Flag 12	i1	QC flag for 'Current direction' and 'Current speed'

*1 The plus and minus sign of No.8 [Ship speed (Water)] about R/V KAIREI indicates the velocity of direction of a bow and stem.

*2 No.14 [True wind direction] and No.15 [True wind speed] about R/V SHINSEI MARU are instantaneous value.

* The terminator of each record is 'CR+LF' code.

* Missing value and format error value are filled with '9'.

Definition of Quality Control Flags

Flag 1 : Longitude and Latitude

- 1 - accepted
- 2 - questionable value
- 4 - failed in location check
- 9 - system error or input error

Flag 2 : Ship speed (ground)

- 1 - accepted
- 2 - questionable value
- 4 - failed range check (under 20 knots)
- 9 - system error or input error

Flag 3 : Course (ground)

- 1 - accepted
- 2 - questionable value
- 4 - failed range check (0 ~ 360 degree)
- 9 - system error or input error

Flag 4 : Ship speed (water)

- 1 - accepted
- 4 - failed range check (under 20 knots)
- 9 - system error or input error

Flag 5 : Gyro

- 1 - accepted
- 4 - failed range check (0 ~ 360 degree)
- 9 - system error or input error

Flag 6 : Air temperature
3 - assumed good*
4 - failed range check (-20 ~ 40 degC)
9 - system error or input error

Flag 7 : Sea surface temperature
3 - assumed good*
4 - failed range check (-3 ~ 37 degC)
9 - system error or input error

Flag 8 : Atmospheric pressure
3 - assumed good*
4 - failed range check (890 ~ 1040 hPa)
9 - system error or input error

Flag 9 : Relative humidity
3 - assumed good*
4 - failed range check (0 ~ 100 %)
9 - system error or input error

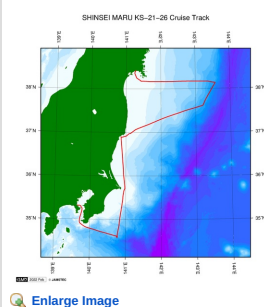
Flag 10 : Wind direction and wind speed
3 - assumed good*
4 - failed range check (0 ~ 360 degree : wind direction, 0 ~ 60 m/s : wind speed)
9 - system error or input error

Flag 11 : Depth
3 - assumed good*
4 - failed range check (4 ~ 11000 m)
9 - system error or input error

Flag 12 : Current direction and current speed
3 - assumed good*
4 - failed range check (0 ~ 360 degree : current direction, 0 ~ 5 knots : current speed)
9 - system error or input error

* 'assumed good' means that this data passed range check but may contains leap or inappropriate zero.

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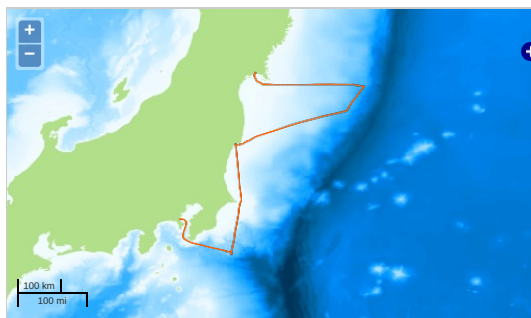
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Observation Items:

Science Keywords:

Observation Map

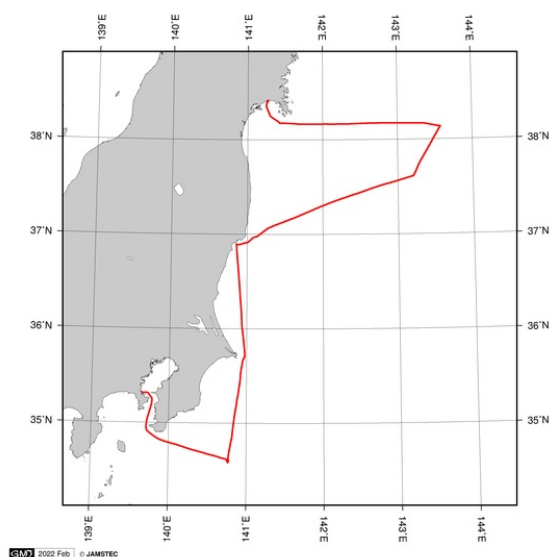


Imagery reproduced from ...

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

Figures

KS-21-26: Navigation



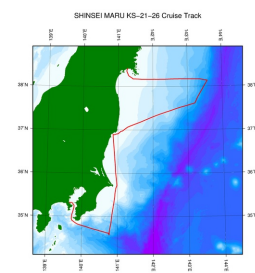
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File names

☐ KS-21-26.dat

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