

NATSUSHIMA NT11-12 Navigation

Last Modified: 2012-09-28

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Cruise ID: [NT11-12](#)

Navigation: Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

Observation Items:

Science Keywords:

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/NT11-12_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:

Radio navigation system



Overview

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

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.

System

Manufacturer: SENA Co., Ltd

Model: Sena Advanced Integrated Navigation System

Sensor specifications

1) GPS

Manufacturer: Trimble Navigation Limited (Receiver)
Fugro Survey Limited (D-GPS)
Model: SPS751 (Receiver)
Starfix-XP (D-GPS)
Receiver location: Mast[starboard side]
Mast[port side]

2) Thermometer (seawater temperature)

Manufacturer: Murayama DENKI Ltd
Model: DT-3110ARZ
Range: -10 - 50degC
Accuracy: ± 0.1 degC

3) Doppler sonar

Manufacturer: FURUNO ELECTRIC CO., LTD
Model: DS-30
Range: Ship speed: -10.00 - +40.00knot [Cross direction]
-9.99 - +9.99knot [Horizontal direction]
Current direction and speed: 0.0 - 9.9knot [All direction]
Accuracy: Current speed: $\pm (2.0\% + 0.2\text{knot})$

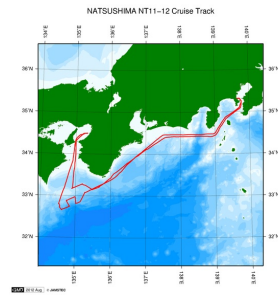
4) Multi narrow beam echo sounder

Manufacturer: RESON Inc.
Model: SeaBat 8160
Frequency: 50kHz
Range: Max 3000m

5) Anemometer

Manufacturer: Nunotani Nautical Instrument Mfg. Co. Ltd
Altitude: 20m (above sea level)
Range: Wind direction: all direction
Wind speed: 2 - 60m/s
Accuracy: Wind direction: ± 5 degree
Wind speed: 10m/s or less ± 0.5 m/s
10m/s or more $\pm 0.5\%$

Related Information



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NT11-12

Ship Name: NATSUSHIMA

Period: 2011-07-15 - 2011-07-23

Chief Scientist: Norio Shimomura (JAMSTEC)

Proposal Research for Interaction between the Tokai, Tonankai and Nankai Earthquakes - Seismic
Title: survey and seismicity study in off Shikoku -

Update History

| | |
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| 2012-09-28 | An observation data was registerd. |
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YOKOSUKA
MIRAI
KAIREI
CHIKYU
KAIMEI
SHINSEI MARU
HAKUHO MARU

Information of the Submersibles

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SHINKAI 2000
SHINKAI 6500
DEEP TOW
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POWER GRAB SAMPLER (SHELL)
POWER GRAB SAMPLER (CLOW)
BMS

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Dive ID:

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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.mmmN(S) |
| 5 | 33 - 44 | Longitude | i3,x1,f7.4,a1 | degree - minute | ddd-mm.mmmE(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

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

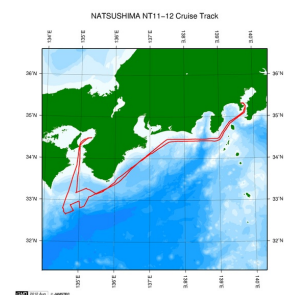
- 3 - assumed good*
- 4 - failed range check (4 ~ 11000 m)
- 9 - system error or input error

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.

Related Information



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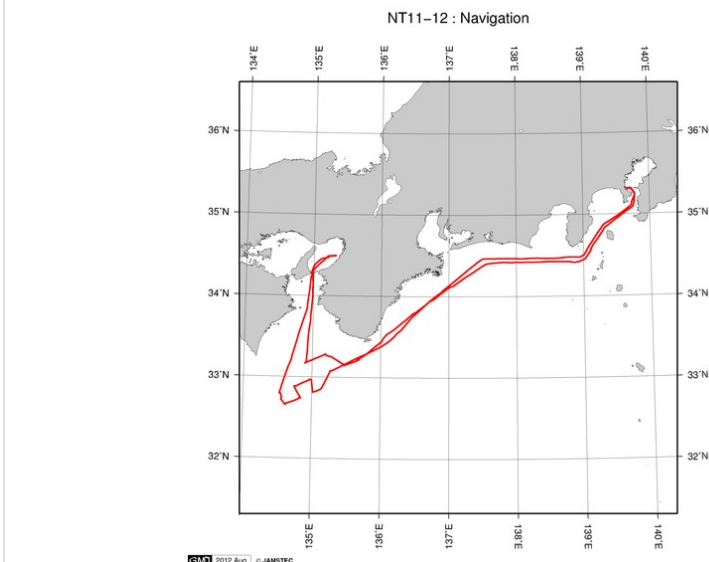
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Observation Map



Figures



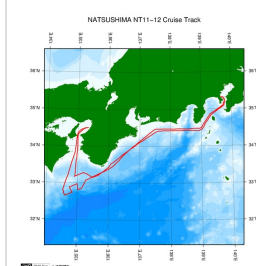
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File names

☐ NT11-12.dat

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