

## NATSUSHIMA NT08-09 Leg2 Navigation

Last Modified: 2012-10-25

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

Cruise ID: [NT08-09 Leg2](#)

Navigation: Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

Observation Items:

Science Keywords:

#### Cruise Report

[http://www.godac.jamstec.go.jp/catalog/data/doc\\_catalog/media/NT08-09\\_leg1-2\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/NT08-09_leg1-2_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 receiver

Manufacturer:Leica Geosystems AG (GPS2)

Model: MX9400N

Location: Mast[starboard side]

Manufacturer:Leica Geosystems AG (GPS3)

Model: MX9400N

Location: Mast [port side]

##### 2)Thermometer (seawater temperature)

Manufacturer:Murayama DENKI Ltd.

Model: DT-3110ARZ

Range: -10 - 50degC

Accuracy: +-0.1degC

##### 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: +-(2.0%+0.2knot)

##### 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: +-5degree

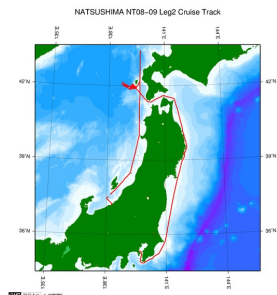
Wind speed: 10m/s or less +-0.5m/s

10m/s or more +-0.5%

#### Related Information

 Cruise Data

 Dive Data



[Enlarge Image](#)

#### NT08-09 Leg2

Ship Name: NATSUSHIMA

Period: 2008-05-11 - 2008-05-23

Chief Scientist: Ryo Matsumoto (The University of Tokyo)

Proposal Integrated study on biogeoscience of methane hydrate and methane plume in the eastern margin of Japan Sea

#### Update History

2012-10-25 An observation data was registerd.

#### JAMSTEC

[Site Policy](#)

[Privacy Policy](#)

[Application for Data and Samples](#)

[Data Policy](#)

[What's New](#)

[Update History](#)

[Feeds](#)

#### Lists

[Publication List](#)

[Amount of Public Info.](#)

#### Data

[Map Search](#)

[Data Tree](#)

[Detailed Search](#)

#### 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

#### Go to a Dive Information

Dive ID:

Go

Copyright 2011 Japan Agency for Marine-Earth Science and Technology



**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

## NATSUSHIMA NT08-09 Leg2 Navigation

Last Modified: 2012-10-25

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

Cruise ID: **NT08-09 Leg2**

Navigation: Processed (DMO)-QCed

Data Policy: **JAMSTEC**

### 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<br>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<br>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

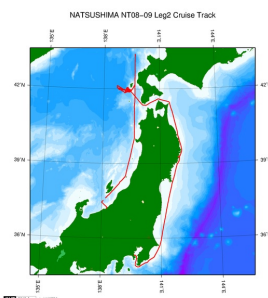
- 3 - assumed good\*
- 4 - failed range check (0 ~ 360 degree : current direction, 0 ~ 5 knots : current speed)
- 9 - system error or input error

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

## Related Information

 Cruise Data

 Dive Data



 [Enlarge Image](#)

### NT08-09 Leg2

Ship Name: NATSUSHIMA

Period: 2008-05-11 - 2008-05-23

Chief Scientist: Ryo Matsumoto (The University of Tokyo)

Proposal Integrated study on biogeoscience of methane hydrate and methane plume in the eastern

Title: margin of Japan Sea

## Update History

|            |                                    |
|------------|------------------------------------|
| 2012-10-25 | An observation data was registerd. |
|------------|------------------------------------|

### JAMSTEC

[Site Policy](#)

[Privacy Policy](#)

[Application for Data and](#)

[Samples](#)

[Data Policy](#)

[What's New](#)

[Update History](#)

[Feeds](#)

### Lists

[Publication List](#)

[Amount of Public Info.](#)

### Data

[Map Search](#)

[Data Tree](#)

[Detailed Search](#)

### 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:



## NATSUSHIMA NT08-09 Leg2 Navigation

Last Modified: 2012-10-25

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

Cruise ID: **NT08-09 Leg2**

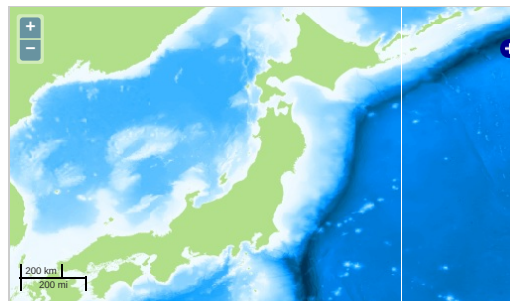
Navigation: Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

Observation Items:

Science Keywords:

### Observation Map

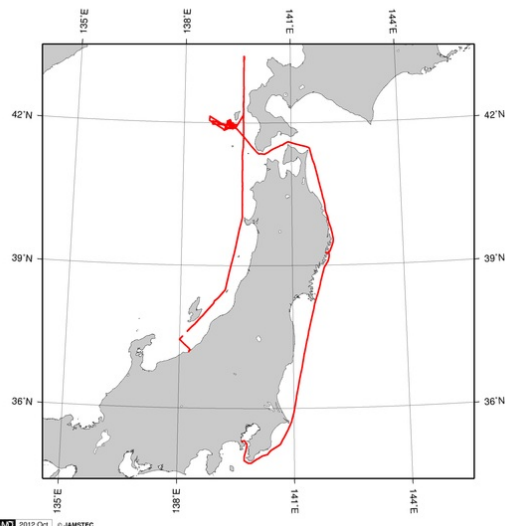


... Observation Line ... Navigation ... Observation, Dive Point, Hole

Imagery reproduced from ...

### Figures

NT08-09 Leg2 : Navigation



### Data List

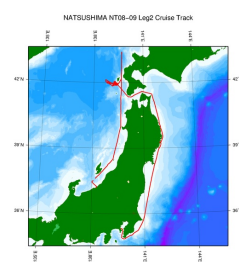
[Add to Basket](#)

File names

☐ NT08-09\_leg2.dat

### Related Information

[Cruise Data](#) [Dive Data](#)



[Enlarge Image](#)

#### NT08-09 Leg2

Ship Name: NATSUSHIMA

Period: 2008-05-11 - 2008-05-23

Chief Scientist: Ryo Matsumoto (The University of Tokyo)

Proposal Integrated study on biogeoscience of methane hydrate and methane plume in the eastern margin of Japan Sea

Title: margin of Japan Sea

### Update History

2012-10-25

An observation data was registerd.

JAMSTEC

Site Policy

Privacy Policy

Application for Data and Samples

Data Policy

What's New

Update History

Feeds

Lists

Publication List

Amount of Public Info.

Data

Map Search

Data Tree

Detailed Search

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

Go to a Dive Information

Dive ID:

Go

Copyright 2011 Japan Agency for Marine-Earth Science and Technology



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