

## KAIYO KY02-12 Navigation

Last Modified: 2016-07-15

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

Cruise ID: [KY02-12](#)

Navigation: Processed (DMO)-QCed

Data Policy: [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:

Radio navigation system



**Overview**

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

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

Data format version 02.6

**Sensor specifications**

1)GPS receiver

Manufacturer:Leica Geosystems AG (GPS1)

Model: MX9400N

Location: Mast [starboard side]

Manufacturer:Leica Geosystems AG (GPS2)

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:SEABEAM INSTRUMENTS

Model: Sea Beam 2100

Frequency: 12.158kHz

Range: 45 - 11000m

5)Anemometer

Manufacturer:Ogasawara Keiki Seisakusho Co., Ltd.

Model: PR-350

Altitude: 27m (above sea level)

Range: Wind direction:all direction

Wind speed: 0 - 60m/s

Accuracy: Wind direction:+-5degree

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

10m/s or more +-0.5%

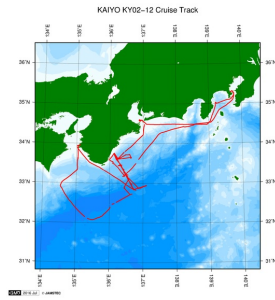
**Related Information**

#### KY02-12

Ship Name: KAIYO

Period: 2002-12-19 - 2003-01-03

Chief Scientist: Masataka Kinoshita (JAMSTEC)/Tadanori Goto (JAMSTEC)



 [Enlarge Image](#)

#### Update History

| Date       | Description                         |
|------------|-------------------------------------|
| 2016-07-15 | An observation data was registered. |

#### 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:

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

## KAIYO KY02-12 Navigation

Last Modified: 2016-07-15

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

Cruise ID: [KY02-12](#)

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<br>(Ground)           | f4.1          | knot            |  |
| 7   | 51 - 55   | Course<br>(Ground)               | f5.1          | degree          |  |
| 8   | 57 - 60   | Ship speed<br>(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<br>(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

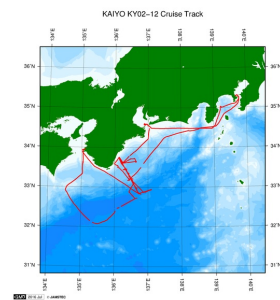
- 3 - assumed good\*
- 4 - failed range check (4 ~ 11000 m)
- 9 - system error or input error

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



[Enlarge Image](#)

### KY02-12

Ship Name: KAIYO

Period: 2002-12-19 - 2003-01-03

Chief Scientist: Masataka Kinoshita (JAMSTEC)/Tadanori Goto (JAMSTEC)

## Update History

|            |                                     |
|------------|-------------------------------------|
| 2016-07-15 | An observation data was registered. |
|------------|-------------------------------------|

### 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:



## KAIYO KY02-12 Navigation

Last Modified: 2016-07-15

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

Cruise ID: **KY02-12**

Navigation: Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

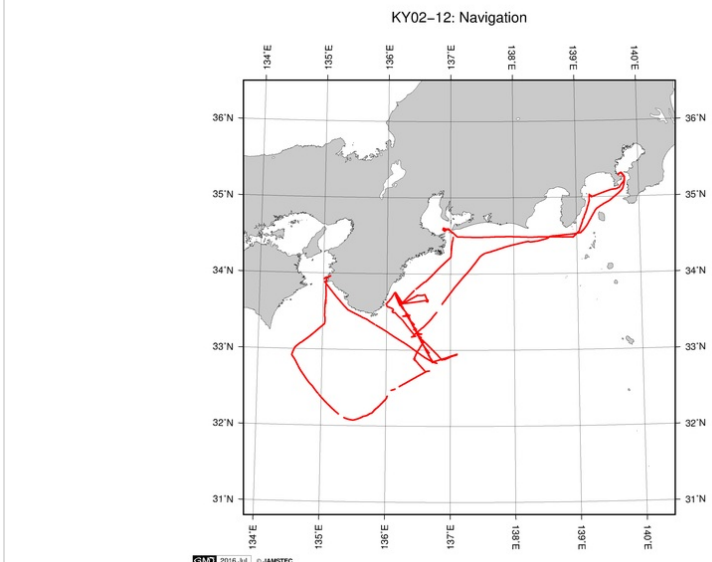
Observation Items:

Science Keywords:

### Observation Map



### Figures



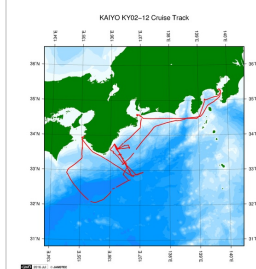
### Data List

[Add to Basket](#)

File names

☐ KY02-12.dat

### Related Information



[Enlarge Image](#)

#### KY02-12

Ship Name: KAIYO

Period: 2002-12-19 - 2003-01-03

Chief Scientist: Masataka Kinoshita (JAMSTEC)/Tadanori Goto (JAMSTEC)

### Update History

2016-07-15

An observation data was registered.

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:

