

For Using Data

| | |
|------------------------|--|
| Data Policy | JAMSTEC |
| Principal Investigator | Data Management Office |
| Use Constraints | See Terms and Conditions about constrain of use. |
| Data Citation | See Terms and Conditions about data citation. |

Quality

DMO-Processed

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 receiver

| | |
|--------------------|----------------------|
| 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 |
| 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

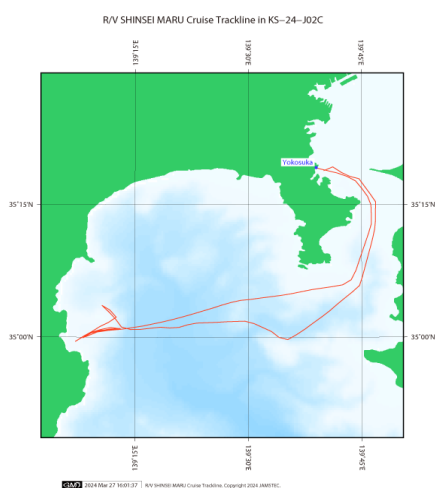
| | |
|---------------|---|
| Manufacturer: | FURUNO ELECTRIC CO., LTD. |
| Model: | DS-60 |
| Range: | Ship speed: -10.00 - +40.00knot [Cross direction] -9.99 - +9.99knot [Horizontal direction] |
| | Current direction and 0.0 - 9.9knot [All direction] |
| Accuracy: | Water tracking: +/-1.0% or +/-0.1 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: | 50m - 9,000m |
| 6) Anemometer | |
| Manufacturer: | NIPPON ELECTRIC INSTRUMENT, INC. |
| Model: | N-363D |
| Altitude: | 24.4m (above sea level) |
| Range: | Wind direction: all direction |
| | Wind speed: 2 - 60m/s |
| Accuracy: | Wind speed: less 10m/s or less +/- 0.5m/s |
| | more 10m/s or less +/- 0.5% |

Related Information



KS-24-J02C

Ship Name:

SHINSEI MARU

Period:

2024/02/29 - 2024/03/07

Chief Scientist:

Shojiro Ishibashi (JAMSTEC)

Proposal:

Verification tests on physical property estimation technology and Doppler verification technology using lasers

Format Description for QCed Data of Navigation

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 | Content | 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.