

## For Using Data

|                        |  |
|------------------------|--|
| Data Policy            | JURCAOS-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

Raw

## Instrument

meteorological and oceanographic  
observation system



## Overview

The data provided here is format-converted marine meteorological data observed by R/V SHINSEI MARU. It consists of Atmospheric Pressure, Air Temperature, Relative Humidity, Wind Direction and Speed, Rainfall, Radiation, Sea Surface Temperature, and the ship position data is added. Quality control such as averaging is not performed.

## Measurement System

| Sensors  | Manufacturer                  | Type       | Location (from sea surface)      |
|--|-------------------------------|------------|----------------------------------|
| Anemometer   | ANEOS, Japan                  | N-363D     | Foremast (15m)<br>Mainmast (24m) |
| Tair   | ANEOS, Japan                  | TS-301C    | Foremast (15m)                   |
| RH   | Vaisala, Finland              | HMT333     | Foremast (15m)                   |
| Thermometer (SST)  | ANEOS, Japan                  | Pt100 N66M | Ship bottom (-4.5m)              |
| Barometer  | Vaisala, Finland              | PTB330     | No.1 Laboratory<br>(9.5m)        |
| Rain gauge   | R.M. Young, USA               | 50202      | Compass deck (14m)               |
| Radiometer<br>(shortwave)                                      | Hukseflux, The<br>Netherlands | CHF-LP02   | Compass deck (14m)               |
| Radiometer<br>(long-wave)                                      | Hukseflux, The<br>Netherlands | CHF-IR02   | Compass deck (14m)               |
| Surface<br>photosynthetically<br>available radiometer<br>(PAR) | Delta OHM, Italy              | LP PAR01   | Compass deck (19 m)              |

## Calibration Information

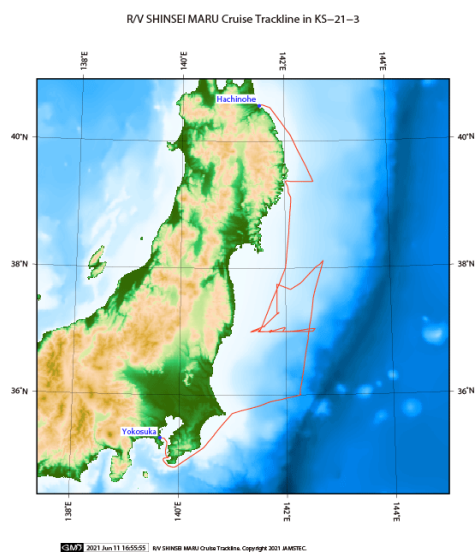
Tair/RH sensor calibration date 2019/2/4

## Note

- 1) About the shortwave radiation, please use both sensor data No.1 and No.2, because shortwave radiometer may be shaded by the hull structure.
- 2) About the atmospheric pressure, the barometer is measured in No.1 laboratory, a pressure difference with the ship outside atmosphere might occur in some situation.
- 3) If you would like the raw data set, please contact DMO at "dmo@jamstec.go.jp".

## Related Information

---



### KS-21-3

Ship Name:

SHINSEI MARU

Period:

2021/03/23 - 2021/03/30

Chief Scientist:

Sachihiko Itoh (The University of Tokyo)

Proposal:

Structure, material exchange and production processes of submesoscale phenomena in the off Tohoku frontal areas during a mixing period

## Format Description for Meteorology Raw (SHINSEI MARU)

Single space separated.

| No. | Column  | Content  | Format<br>(nodata or baddata) | Unit      | Remarks  |
|-----|---------|--|-------------------------------|-----------|--|
| 1   | 1-12    | Date and time<br>[YYYYMMDDhhmm]                            | i12                           |           | Every 1 minute   |
| 2   | 14-21   | Julian day<br>[DDD.DDDD]                                   | f8.4                          |           | Every 1 minute   |
| 3   | 23-29   | Longitude [0 to 360]                                       | f7.3<br>(999.999)             | degree    | Location at time stamp*<br>East longitude  |
| 4   | 31-37   | Latitude [-90 to 90]                                       | f7.3<br>(999.999)             | degree    | Location at time stamp*<br>+: North latitude, -: South latitude  |
| 5   | 39-44   | Atmospheric pressure                                       | f6.1<br>(9999.9)              | hPa       | Every 1 minute   |
| 6   | 46-50   | Air temperature  | f5.1<br>(999.9)               | deg-C     | Every 1 minute   |
| 7   | 52-56   | Dewpoint temperature                                       | f5.1<br>(999.9)               | deg-C     | Every 1 minute<br>Calculated from 'Air temperature' and<br>'Relative humidity' using WMO's<br>Formula** for liquid water |
| 8   | 58-62   | Relative humidity  | f5.1<br>(999.9)               | %         | Every 1 minute   |
| 9   | 64-70   | Sea surface temperature<br>(SST)                           | f7.4<br>(99.9999)             | deg-C     | Every 1 minute<br>From Ship bottom thermometer   |
| 10  | 72-76   | Wind speed (zonal)   | f5.1<br>(999.9)               | m/sec     | Every 1 minute<br>No anemometer height adjustment<br>Anemometer at foremast  |
| 11  | 78-82   | Wind speed (meridional)                                    | f5.1<br>(999.9)               | m/sec     | Every 1 minute<br>No anemometer height adjustment<br>Anemometer at foremast  |
| 12  | 84-89   | 1-hour moving<br>accumulated precipitation                 | f6.2<br>(999.99)              | mm/h      | Every 1 minute   |
| 13  | 91-96   | Short wave radiation<br>(No.1)                             | f6.1<br>(9999.9)              | W/m2      | Every 1 minute   |
| 14  | 98-103  | Long wave radiation<br>(No.1)                              | f6.1<br>(9999.9)              | W/m2      | Every 1 minute   |
| 15  | 105-110 | Short wave radiation<br>(No.2)                             | f6.1<br>(9999.9)              | W/m2      | Every 1 minute   |
| 16  | 112-117 | Long wave radiation<br>(No.2)                              | f6.1<br>(9999.9)              | W/m2      | Every 1 minute   |
| 17  | 119-124 | Surface<br>photosynthetically<br>available radiation (PAR) | f6.1<br>(9999.9)              | μ mol/m2s | Every 1 minute   |
| 18  | 126-130 | True wind speed (No.1)                                     | f5.1<br>(999.9)               | m/sec     | 1-minute mean<br>No anemometer height adjustment   |
| 19  | 132-136 | True wind direction<br>(No.1)                              | f5.1<br>(999.9)               | degree    | 1-minute mean<br>No anemometer height adjustment   |
| 20  | 138-142 | Relative wind speed<br>(No.1)                              | f5.1<br>(999.9)               | m/sec     | 1-minute mean<br>No anemometer height adjustment   |
| 21  | 144-148 | Relative wind direction<br>(No.1)                          | f5.1<br>(999.9)               | degree    | 1-minute mean<br>No anemometer height adjustment   |
| 22  | 150-154 | True wind speed (No.2)                                     | f5.1<br>(999.9)               | m/sec     | 1-minute mean<br>No anemometer height adjustment   |
| 23  | 156-160 | True wind direction<br>(No.2)                              | f5.1<br>(999.9)               | degree    | 1-minute mean<br>No anemometer height adjustment   |
| 24  | 162-166 | Relative wind speed<br>(No.2)                              | f5.1<br>(999.9)               | m/sec     | 1-minute mean<br>No anemometer height adjustment   |
| 25  | 168-172 | Relative wind direction<br>(No.2)                          | f5.1<br>(999.9)               | degree    | 1-minute mean<br>No anemometer height adjustment   |

\* A ship's position data is not included in the raw data of R/V SHINSEI MARU meteorological observation system, the latitude and longitude are added from the "navigation" data.

If there is no "navigation" data for that time stamp, the latitude and longitude of 5 seconds after is used.

\*\* WMO-No.8 (Guide to Meteorological Instruments and Methods of Observation)