

MIRAI MR13-02B Leg1 Cloud Ceiling

Last Modified: 2014-08-12

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

Cruise ID: [MR13-02B Leg1](#)

Cloud Ceiling: Raw

Data Policy: [JAMSTEC](#)

Observation Items: Cloud base height

Science Keywords:

ATMOSPHERE > CLOUDS > CLOUD
BASE

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.

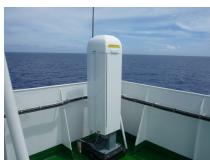
Period (UTC)

2013-05-10 01:28 - 2013-05-16 23:20

Instrument

Instrument:

Ceiliometer (MR13-02B -)



Overview

Ceiliometer is the system that measures cloud base height by laser pulse emitted vertically.

Up to three levels of cloud base can be detected by measuring the change of strength of backscatter signal.

And the cloud base height is calculated from the elapsed time from laser pulse emission to backscatter detection.

In case the cloud base is obscured, it measures the vertical visibility.

System

Manufacturer: Vaisala Inc.
Type: CL51
Serial number: J0510004
Measurement range: up to 15000m (Backscatter measurement)
up to 13000m (Cloud detection)
Resolution: 10m
Sampling rate: 10-120 seconds available (36sec as default)
Accuracy: greater of +-1% or +-5m
Location: Compass deck bow side (18 meters high from sea surface)
Recording software: CL-VIEW Ver2.00 (after MR13-02B Leg1)

Note

(1) File naming rule for CYMMDDHH.DAT(Ver1.05) and AYMMDDHH.DAT(Ver2.10).

C or A : Fixed as 'C' or 'A'

Y : Year in 1 digit

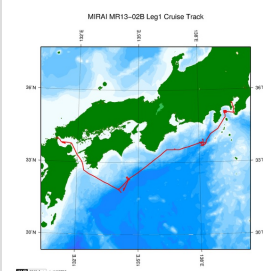
MM : Recording start month (UTC)

DD : Recording start day (UTC)

HH : Recording start time (UTC)

(2) Adjustment for the height : No sea surface level adjustment is applied to the raw data.

Related Information



MR13-02B Leg1

Ship Name: MIRAI

Period: 2013-05-09 - 2013-05-16

Chief Scientist: Mari Inada (JAMSTEC)

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Update History

| | |
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| 2014-08-12 | An observation data was registerd. |
| 2014-07-30 | An observation data was registerd. |

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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

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Ceiling Raw

The record length of the data file is 56 bytes.

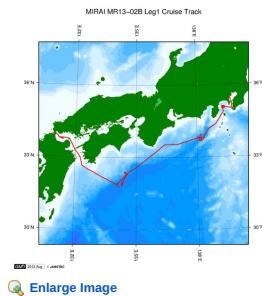
| No. | Column | Content | Format | Remarks |
|-----|---------|--|----------|---|
| 1 | 1 - 8 | Date | i4,i2,i2 | YYYYMMDD (UTC) |
| 2 | 10 - 15 | Time | i2,i2,i2 | hhmmss (UTC) |
| 3 | 17 - 19 | Operating software | a3 | 'CT0' : CT-VIEW 'CL0' : CL-VIEW |
| 4 | 20 - 21 | Software version | i2 | Version of operating software |
| 5 | 22 | Data status | i1 | 1: Cloud base height/vertical visibility data 2: Cloud base height/vertical visibility, backscatter signal 6: Cloud base height/vertical visibility, cloud amount/height of cloud layer 7: Cloud base height/vertical visibility, backscatter signal, cloud amount/height of cloud layer |
| 6 | 23 | Spare character | a1 | |
| 7 | 25 | Detection status | i1 | 0: Clear 1: One cloud base detected 2: Two cloud bases detected 3: Three cloud bases detected 4: Full obscuration determined but no cloud base detected 5: Some obscuration detected but determined to transparent |
| 8 | 26 | Warning and alarm information | a1 | 0: Self-check OK W: At least one warning active, no alarms A: At least one alarm active See No.12:observation information |
| 9 | 28 - 32 | Lowest cloud base height or vertical visibility | i5 | In the case of detection status is 1,2 or 3: Lowest cloud base height In the case of detection status is 4: Calculation of vertical visibility In the case of detection status is 0 or 5: ///// Unit: See No.12:observation information |
| 10 | 34 - 38 | Second lowest cloud base height or highest signal detected | i5 | In the case of detection status is 2 or 3: Second lowest cloud base height In the case of detection status is 4: Maximum height that a signal was detected In the case of detection status is 0,1 or 5: ///// Unit: See No.12:observation information |
| 11 | 40 - 44 | Highest cloud base height | i5 | In the case of detection status is 3: Highest cloud base height In the case of detection status is 0,1,2,4,5: ///// Unit: See No.12:observation information |
| 12 | 46 - 53 | Observation information | a8 | *1 |
| 13 | 55 - 56 | Terminator | a2 | CR+LF |

*1: Observation information

The information is presented using 8 bytes characters. Each character, indicated in hexadecimal character, shows the following meanings;

| Byte | Hexadecimal character (0:on, -:off) | | | | | | | | | | | | | | | | Message(A:alarm, W:warning) |
|------|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C | D | E | F | |
| 1 | - | - | - | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Laser temperature shut-off(A) |
| | - | - | - | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | Laser failure(A) |
| | - | 0 | 0 | - | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | - | 0 | 0 | Receiver failure(A) |
| | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | 0 | Voltage failure(A) |
| 2 | - | - | - | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Spare(A) |
| | - | - | - | 0 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Spare(A) |
| | - | 0 | 0 | - | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | - | 0 | 0 | Spare(A) |
| | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | 0 | Spare(A) |
| 3 | - | - | - | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Windows contaminated(W) |
| | - | - | - | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | Battery low(W) |
| | - | 0 | 0 | - | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | - | 0 | 0 | Laser power low(W) |
| | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | 0 | Laser temperature high or low(W) |
| 4 | - | - | - | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Internal temperature high or low(W) |
| | - | - | - | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | Voltage high or low(W) |
| | - | 0 | 0 | - | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | - | 0 | 0 | Relative Humidity is > 85%(W) |
| | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | 0 | Receiver cross-talk compensation poor(W) |
| 5 | - | - | - | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Blower suspect(W) |
| | - | - | - | 0 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Spare(W) |
| | - | 0 | 0 | - | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | - | 0 | 0 | Spare(W) |
| | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | 0 | Spare(W) |
| 6 | - | - | - | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Blower is ON |
| | - | - | - | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | Blower heater is ON |
| | - | 0 | 0 | - | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | - | 0 | 0 | Internal heater is ON |
| | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | 0 | Units are METERS if ON , else FEET |
| 7 | - | - | - | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Polling mode is ON |
| | - | - | - | 0 | 0 | 0 | 0 | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Working from battery |
| | - | 0 | 0 | - | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | - | 0 | 0 | Single sequence mode is ON |
| | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | 0 | Manual settings are effective |
| 8 | - | - | - | - | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Tilt angle is > 45 degrees |
| | - | - | - | 0 | 0 | 0 | 0 | - | - | - | 0 | 0 | 0 | 0 | 0 | 0 | High background radiance |
| | - | 0 | 0 | - | 0 | 0 | 0 | - | 0 | 0 | - | 0 | 0 | - | 0 | 0 | Manual blower control |
| | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | 0 | Spare |

Related Information



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Chief Scientist: Mari Inada (JAMSTEC)

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国立研究開発法人
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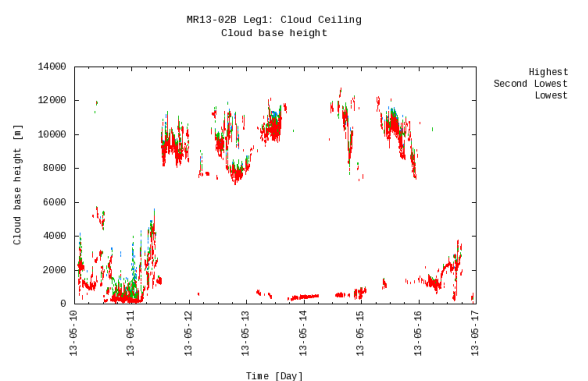
Observation Map



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

Imagery reproduced from ...

Figures



Data List

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☐ File names

☐ A3051001.DAT

☐ A3051100.DAT

☐ A3051200.DAT

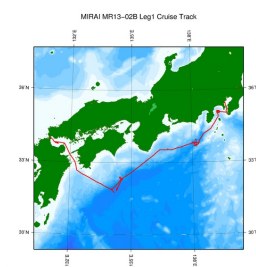
☐ A3051300.DAT

☐ A3051400.DAT

☐ A3051500.DAT

☐ A3051600.DAT

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