

## MIRAI MR05-04 Cloud Ceiling

Last Modified: 2014-07-26

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Cruise ID: **MR05-04**

Cloud Ceiling: Raw

Data Policy: **JAMSTEC**

Observation Items: Cloud base height

Science Keywords:

ATMOSPHERE > CLOUDS > CLOUD  
BASE

Cruise Report

[http://www.godac.jamstec.go.jp/catalog/data/doc\\_catalog/media/MR05-04\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR05-04_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:

Ceiliometer (- MR12-05Leg3)



### 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: CT25K Ver2.01  
Serial number: T18102  
Measurement range: up to 7500m  
Resolution: 15m  
Sampling rate: 15-120 seconds available (60sec as default)  
Accuracy:  $\pm 2\%$  or  $\pm 1/2 \times \text{Resolution}$   
Location: Compass deck bow side (18 meters high from sea surface)  
Recording software: CT-VIEW Ver1.05 (before MR01-K04)  
CT-VIEW Ver2.10 (MR01-K05 or later)

### 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)

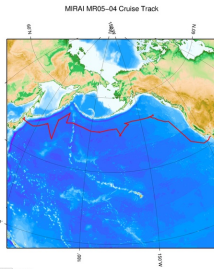
(2) Adjustment for the height : No sea surface level adjustment is applied to the raw data.

(3) Invalid data information : Ceiliometer data files include the invalid data in this cruise as follows.

Date/Time : Date,Time data is invalid  
Format : Format error data  
DataLack : Lack of data

| Start        | Stop            |              |                 |          |
|--------------|-----------------|--------------|-----------------|----------|
| File name    | Date,Time       | File name    | Date,Time       | Remarks  |
| A5091800.DAT | 20050918,023818 | A5091800.DAT | 20050918,030718 | DataLack |

### Related Information



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**MR05-04**  
Ship Name: MIRAI  
Period: 2005-09-13 - 2005-10-27  
Chief Scientist: Makio Honda (JAMSTEC)  
Project Name: [Station K2, Station KNOT]

#### Update History

|            |                                    |
|------------|------------------------------------|
| 2014-07-26 | An observation data was registerd. |
| 2012-11-25 | An observation data was registerd. |

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Cruise ID:

#### Go to a Dive Information

Dive ID:

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Cruise ID: **MR05-04**

Cloud Ceiling: Raw

Data Policy: [JAMSTEC](#)

### Ceiling Raw

The record length of the data file is 56 bytes.

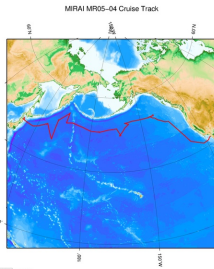
| No. | Column  | Content  | Format   | Remarks   |
|-----|---------|--|----------|---|
| 1   | 1 - 8   | Date   | i4,i2,i2 | YYYYMMDD (UTC)  |
| 2   | 10 - 15 | Time   | i2,i2,i2 | hhmmss (UTC)  |
| 3   | 17 - 19 | Operating software   | a3       | 'CT0' : CT-VIEW<br>'CL0' : CL-VIEW  |
| 4   | 20 - 21 | Software version   | i2       | Version of operating software   |
| 5   | 22      | Data status  | i1       | 1: Cloud base height/vertical visibility data<br>2: Cloud base height/vertical visibility, backscatter signal<br>6: Cloud base height/vertical visibility, cloud amount/height of cloud layer<br>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<br>1: One cloud base detected<br>2: Two cloud bases detected<br>3: Three cloud bases detected<br>4: Full obscuration determined but no cloud base detected<br>5: Some obscuration detected but determined to transparent   |
| 8   | 26      | Warning and alarm information                              | a1       | 0: Self-check OK<br>W: At least one warning active, no alarms<br>A: At least one alarm active<br>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<br>In the case of detection status is 4: Calculation of vertical visibility<br>In the case of detection status is 0 or 5: /////<br>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<br>In the case of detection status is 4: Maximum height that a signal was detected<br>In the case of detection status is 0,1 or 5: /////<br>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<br>In the case of detection status is 0,1,2,4,5: /////<br>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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#### MR05-04

Ship Name: MIRAI  
Period: 2005-09-13 - 2005-10-27  
Chief Scientist: Makio Honda (JAMSTEC)  
Project Name: [Station K2, Station KNOT]

#### Update History

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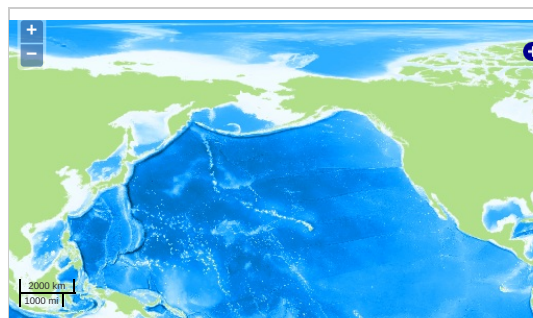
Data Policy: [JAMSTEC](#)

Observation Items: Cloud base height

Science Keywords:

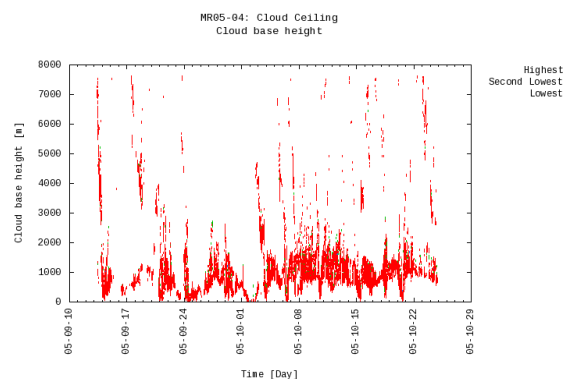
ATMOSPHERE > CLOUDS > CLOUD  
BASE

### Observation Map



Imagery reproduced from ...

### Figures



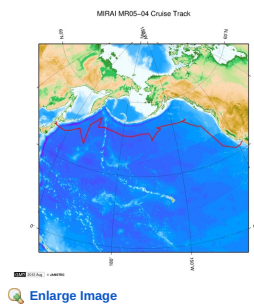
### Data List

[Add to Basket](#)

| <input type="checkbox"/> File names   |
|---------------------------------------|
| <input type="checkbox"/> A5091307.DAT |
| <input type="checkbox"/> A5091400.DAT |
| <input type="checkbox"/> A5091500.DAT |
| <input type="checkbox"/> A5091600.DAT |
| <input type="checkbox"/> A5091700.DAT |
| <input type="checkbox"/> A5091800.DAT |
| <input type="checkbox"/> A5091900.DAT |
| <input type="checkbox"/> A5092000.DAT |
| <input type="checkbox"/> A5092100.DAT |
| <input type="checkbox"/> A5092200.DAT |
| <input type="checkbox"/> A5092300.DAT |
| <input type="checkbox"/> A5092400.DAT |
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| <input type="checkbox"/> A5092700.DAT |
| <input type="checkbox"/> A5092800.DAT |
| <input type="checkbox"/> A5092900.DAT |
| <input type="checkbox"/> A5093000.DAT |
| <input type="checkbox"/> A5100100.DAT |
| <input type="checkbox"/> A5100200.DAT |
| <input type="checkbox"/> A5100300.DAT |
| <input type="checkbox"/> A5100400.DAT |
| <input type="checkbox"/> A5100500.DAT |
| <input type="checkbox"/> A5100600.DAT |
| <input type="checkbox"/> A5100700.DAT |
| <input type="checkbox"/> A5100800.DAT |
| <input type="checkbox"/> A5100900.DAT |
| <input type="checkbox"/> A5101000.DAT |

|                          |              |
|--------------------------|--------------|
| <input type="checkbox"/> | A5101000.DAT |
| <input type="checkbox"/> | File names   |
| <input type="checkbox"/> | A5101100.DAT |
| <input type="checkbox"/> | A5101200.DAT |
| <input type="checkbox"/> | A5101300.DAT |
| <input type="checkbox"/> | A5101400.DAT |
| <input type="checkbox"/> | A5101500.DAT |
| <input type="checkbox"/> | A5101600.DAT |
| <input type="checkbox"/> | A5101700.DAT |
| <input type="checkbox"/> | A5101800.DAT |
| <input type="checkbox"/> | A5101900.DAT |
| <input type="checkbox"/> | A5102000.DAT |
| <input type="checkbox"/> | A5102100.DAT |
| <input type="checkbox"/> | A5102200.DAT |
| <input type="checkbox"/> | A5102300.DAT |
| <input type="checkbox"/> | A5102400.DAT |

#### Related Information



#### MR05-04

Ship Name: MIRAI  
 Period: 2005-09-13 - 2005-10-27  
 Chief Scientist: Makio Honda (JAMSTEC)  
 Project Name: [Station K2, Station KNOT]

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