

## MIRAI MR13-04 Cloud Ceiling

Last Modified: 2015-05-30

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

Cruise ID: [MR13-04](#)

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/MR13-04\\_all.pdf](http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR13-04_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.

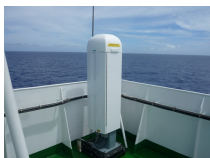
**Period (UTC)**

2013-07-09 05:43 – 2013-07-28 23:59

**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)

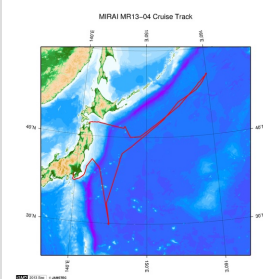
**Note**

(1) File naming rule for AYMMDH.DAT(CL-VIEW Ver2.00).

A : Fixed as '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



[Enlarge Image](#)

### MR13-04

Ship Name: MIRAI

Period: 2013-07-09 - 2013-07-29

Chief Scientist: Makio Honda (JAMSTEC)

Project Name: [Station K2, Station S1, Station KEO, Station KNOT]

Proposal ▶ Change in material cycles and ecosystem by the climate change and its feedback

Title:

## Update History

2015-05-30	An observation data was registerd.
2014-08-23	An observation data was registerd.

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SAMPLER (SHELL)  
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### Ceiling Raw

The record length of the data file is 56 bytes.

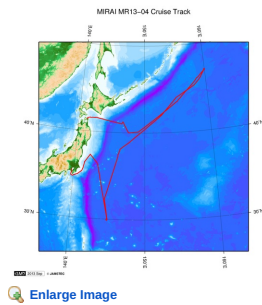
No.	Column	Content	Format	Remarks
1	1 - 8	Date	i4,i2,i2	YYYYMMDD (UTC)
2	10 - 15	Time	i2,i2,i2	hhmmss (UTC)
3	17 - 19	Operating software	a3	'CT0' : CT-VIEW 'CL0' : CL-VIEW
4	20 - 21	Software version	i2	Version of operating software
5	22	Data status	i1	1: Cloud base height/vertical visibility data 2: 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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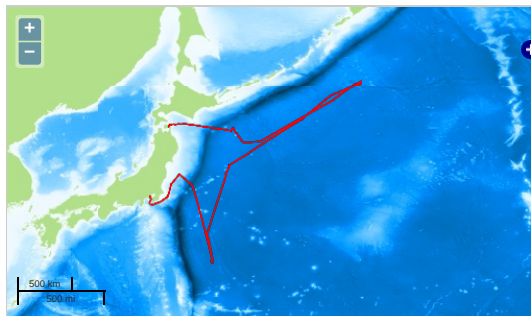
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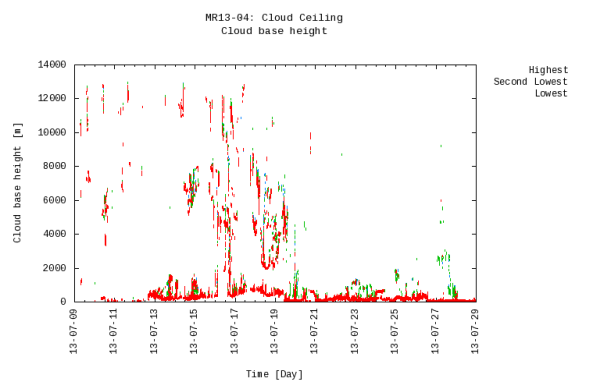
### Observation Map



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

Imagery reproduced from ...

### Figures



### Data List

[Add to Basket](#)

☐ File names

☐ A3070905.DAT

☐ A3071000.DAT

☐ A3071100.DAT

☐ A3071200.DAT

☐ A3071300.DAT

☐ A3071400.DAT

☐ A3071500.DAT

☐ A3071600.DAT

☐ A3071700.DAT

☐ A3071800.DAT

☐ A3071900.DAT

☐ A3072000.DAT

☐ A3072100.DAT

☐ A3072200.DAT

☐ A3072300.DAT

☐ A3072400.DAT

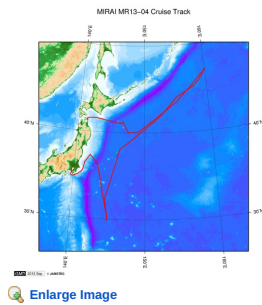
☐ A3072500.DAT

☐ A3072600.DAT

☐ A3072700.DAT

☐ A3072800.DAT

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